

psa
JOURNAL

VOLUME 16 NUMBER 6

JUNE 1950

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OFFICIAL PUBLICATION OF THE PHOTOGRAPHIC SOCIETY OF AMERICA

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WHAT'S NEW

A new movie titling service hitherto used only in professional motion pictures has become available to amateurs. The new service, introduced by Titra Film Laboratories, Inc., 1600 Broadway, New York, who make foreign language titles for a number of major motion picture concerns, consists of superimposing white letter titles directly onto 16mm films. Ordinarily, the amateur must cut in titles on his 16mm silent film. With the Titra service, he simply indicates where the titles are to go and the titles are etched onto the lower part of the image frame. The basic cost is \$4.50 for titling up to five titles on 50 feet of film.

The first four of a new series of seven lenses for 16mm motion picture cameras are announced by Bell & Howell, of Chicago. The principal feature of the new lenses, according to the company, is that they offer "a constant degree of magnification from one lens in the series to another." The focal lengths of the new lenses will be .7 inch, 1 inch, 1.4 inch, 2 inches, 2.8 inches, 4 inches and 5.6 inches. The use of the same magnifying factor of 1.4, the figure by which each lens is multiplied to give the next longer lens in the series, results in uniform-step magnification from lens to lens.

A high-speed lens for 16mm movie projectors, the six-element, anastigmat f/1.6, is offered by Bausch & Lomb Optical Company, Rochester. The 2-inch coated Super Cinephor "16" lens is in a sealed one-piece mount which fits all sound projectors with the standard 1-3/16ths-inch barrel.

Steel reels and cans for 8mm and 16mm movie film are offered by the Brumberger Company, 34 Thirty-fourth Street, Brooklyn, N. Y., in 200-foot to 400-foot capacities. Features are ribbing on cans to aid stacking, non-slip film grip, non-warping and 50-foot footage markings on the reels.

The Embassy three-lens turret camera, magazine-loading and featuring six speeds to 64 frames per second, was placed on the market recently by De-Jur Amco Corp., Long Island City, N. Y. The new Embassy comes equipped with either an f/2.5 universal-focus lens at \$124.50; an f/1.9 universal-focus lens at \$134.50; or an f/1.9 focusing mount lens at \$146.50.

The "Radiant Automatic," an electric screen field with electrically operated unit in 16 sizes ranging from 6 x 8 feet to 20 x 20 feet, is announced by Radiant Manufacturing Corp., 2627 West Roosevelt Road, Chicago 8. Features are light weight metal case in the Standard Automatic Model, quiet reversible AC motor, aluminum screen roller and the long-life washable, flame-proof, mildew-proof Vyna-Flect screen fabric.

A new bayonet adapter to fit the Auto-matic Roliflex with the Zeiss Tessar f/2.8 lens has been made available by Enteco Industries. The new item will accommodate a Series VI filter and the specially designed Enteco VI A lens hood. The adapter, with insert ring, is \$2.95; the hood, \$2.



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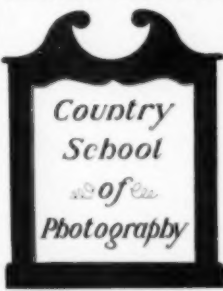
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FREEDOM IN ART . . .

WORTH READING again is that "Statement on Modern Art" appearing in May PSA JOURNAL. Especially that line: "We oppose any attempt to make art or opinion about art conform to a single point of view."

THAT is an important statement. The rights to indulge in any form of art and to express opinions about art are among the essential freedoms. Any attempt to make art, and artists, conform with anybody's thought or ideas, especially as regards subject matter and treatment, can be viewed with proper alarm as that first short step towards thought control, tenet of totalitarianism.

IT WILL be noticed in the May article that while certain museums prefer to display the new art, they do not decri the old. "We do not assume," they explain, "that modernity in itself is any guarantee of quality or importance."

THIS APPROACH gives every artist and every art-lover opportunity to develop his own scale of values without let or hindrance. "We believe," they add, "that it is not a museum's function to try to control the course of art or to tell the artist what he shall or shall not do . . ." They view the museum's job as one of presenting works of art objectively and impartially.

SOMETHING LIKE this could happen, beneficially, in photography. Photographers should be permitted, now and always, to make the photographs they desire to make. Pictorialism may be as old hat as the coonskin, but if that is what the photographer wants to produce, he should have full liberty so to do. If he wants to "go modern," that is his right also.

THE JUDGES and the critics have rights also. Rights to praise and to condemn. Rights to suggest and to advise. Rights to recommend new ways and new approaches. It is only when somebody tries to rule what must be done that trouble starts. That break with democratic tradition cannot be accepted in a free country.—V.H.S.

PSA CONVENTION

Baltimore, Md., October 18-21, 1950

DRIVE OF CHAMPIONS

FAME and FORTUNE, that's what you get as rewards for your efforts in the Drive of Champions. Some of the items of fortune are pictured here. They include:

PSA decals worth 35 cents each
PSA lapel buttons and pins worth \$2.00 each

Tie chains and tie bars (also useful as a money clip) worth \$2.25 each

Free dues for one year, worth \$10

Free dues for five years, worth \$50.

You're surely missing a good bet if you don't get in on these big awards. A penny postal card addressed to PSA Headquarters, 2005 Walnut Street, Philadelphia 3, Pennsylvania will bring you membership application blanks which also contain sales dope. Also available from Headquarters is the Color Division brochure "Activities, Benefits, and Services," which describes in detail what is available through CD.

Remember, the drive is open for memberships sold in the United States and any of its possessions. You get credit for memberships sponsored by you anywhere in these areas.

5 Members in 1 Night

We quote the following from a letter from T. P. Holt, Newport News, Virginia:

Enclosed please find five applications for membership in the PSA. This represents one night's work at the James River Camera Club. I have several more good prospects that I intend to contact next week.

Please send me additional applications and any other information that will help to sell the PSA. It almost sells itself through the JOURNAL.

I would like the lapel button, tie bar, and PSA decalomania. The dues you can pay.

Here's to a bigger and better PSA.

Sign Two Instead of One

Top man on our District No. 5 totem pole this month is Herbert Jackson of Signal Mountain, Tennessee. Since Mr. Jackson has made a specialty of signing husband-wife teams and has been successful at doing this, we asked him to disclose his secret for this type of membership campaign.

What follows is Mr. Jackson's method of approach, which may be equally valuable to other members, as they try to sell husband-wife combination memberships for the bargain rate of \$15, which includes one JOURNAL for the two members, but which permits each member to obtain full PSA benefits including individual Division membership.

There is a Tennessee University Extension Course in Photography being conducted in Chattanooga. I was invited to lecture on the "how and why" of a salon print. The lecture was not given with any idea in mind of selling PSA, although the organization was described in detail, also the workings of the portfolios.

Since the class in black and white ended, a class in color was started, of which I am a member. When Portfolio 21 arrived, I took it to the class to show the type of work it contained. The whole group was very much interested in the prints and especially the comments. (This portfolio includes Dr. Oschner, Frank Heller, Roy Lindahl, to mention a few names.)

Several married couples are enrolled in the



"May I interest you in a PSA Membership?"

class, so when they asked for more details, I explained the benefits to be derived when both were interested in the hobby.

The combination enrollment is very fine for a married couple. One member may be interested in black and white pictorial, while the other favors portraiture or color, as happened in this group. They both then have the opportunity to study two different phases by enrolling in the portfolios.

It so happened that I became associated with a group of intensely interested people. Then, like selling anything, if you believe in it yourself, putting across the idea is not too difficult. This will partly explain the number of enrollments secured to date.

This approach could be used before any camera club by a member qualified to show a variety of prints, explaining the composition, subject matter and technique, and finally showing an actual portfolio.

As a follow-up, immediately after signing up a new member, I drop a line to Eldridge Christliff who then sends an invitation to join a portfolio of their choice. This adds a personal and friendly gesture.

I have a list of prospects to contact in the coming weeks—people who I know would be interested and profit by joining our Society, so I expect to be sending you other entry forms with signatures on the dotted line.

Portfolios Score Again

This comment is quoted from a recent letter from Edith M. Royky, Sioux City, Iowa:

A couple of more memberships. I took Portfolio No. 2 to Camera Club last evening. (P. H. Oelman is commentator for this circle) and the results—2 new memberships. I went prepared though. They also joined portfolios.

Drive of Champions Tally

Here's the score as of May 15 in the Drive of Champions. Let's keep 'em coming!

State	Name	Points
Alabama	Prescott V. Kelly	1
Arizona	None	0



The PSA Tie Bar Award

Arkansas	None	0
California	Dr. Werner Alexewicz	1
	Moreland M. Deaderick	1
	Southern Cal. CC Council	3
	Boris Dobos	1
	Frederick L. Richards	1
Colorado	Roy E. Petersen	1
Connecticut	Paul A. Sperry	20
Delaware	A. K. Pfister	1
Florida	None	0
Georgia	None	0
Hawaii	David A. Muramoto	2
	National Photo Camera Club	2
Idaho	None	0
Illinois	Clifford B. Cox	1
	C. L. Frederick	1
	Russel Kriete	1
	H. J. Johnson	3
	Warren W. Lewis	2
	Mary Matsumura	1
	Walter E. Parker	2
	Pearl E. Schwartz	2
	Mabel Young	4
	S. P. Wright	1
Indiana	None	0
Iowa	Edith M. Royky	5
Kansas	Dan B. Rumpf	1
Kentucky	French Patterson	1
Louisiana	A. E. Woolley, Jr.	1
	Wood Whitesell	5
Maine	None	0
Maryland	None	0
Massachusetts	None	0
Michigan	Earle W. Brown	4
	Harry Perry	1
	Belle McMillen	1
Minnesota	Vin. Michael Judd	1
Mississippi	None	0
Missouri	Stuart M. Chambers	40 *
	W. E. Chase	1
Montana	Carlton L. Lingwall	2
Nebraska	Sten T. Anderson	1
	Richard C. Knott	1
	Stanley D. Sahl	1
Nevada	None	0
New Hampshire	None	0
New Jersey	None	0
New Mexico	None	0
New York	Norman Lipton	1
	H. Paschel	1
	B. E. Buckley	2
	V. H. Scales	1
	Karl R. Clark	1
	William J. Decker	7
	Richard W. Henn	1
	Walter S. Meyers	1
	John G. Mulder	6 *
	Dr. E. P. Wightman	20
North Carolina	None	0
North Dakota	None	0
Ohio	R. C. Hakanson	1
	E. J. Hobbs	1
	Doris M. Weber	20
	Edward B. Noel	2
	A. Millard Armstrong	2
Oklahoma	Frank J. Heller	1
Oregon	C. W. Getzenlander	2
Pennsylvania	Nelson Hutchinson	1
	F. Quicimatz, Jr.	9
	Philip Cass	10 *
	Richard R. Koch	2
	George F. Johnson	1
Rhode Island	None	0
South Carolina	None	0
South Dakota	None	0
Tennessee	Allison V. Slagle	1
	Eugenia Buxton	1
	Herbert Jackson	11
Texas	W. F. Reeves	1
	C. J. Perry	1
	Samuel F. Davis	1
	Dr. L. L. Handly	1
	None	0
Utah	None	0
Vermont	None	0
Virginia	F. P. Holt	5
Washington	None	0
West Virginia	None	0
Wisconsin	None	0
Wyoming	None	0

* Not eligible for higher awards. Champion's names are indicated by italics.

PSA Planning

"TOPS IN PHOTOGRAPHY" SHOWS

BY PAUL GIBBS AND VICTOR H. SCALES, Hon. PSA

TOPS IN PHOTOGRAPHY, the famous and inspiring photographic show, which for five years has assembled annually the largest photographic crowd to attend a single event of its kind, has been made available to PSA for adaptation to the purpose of presenting similar shows in various PSA membership districts.

Privilege of using the name, program, and operating techniques of "Tops" in any community more than 75 miles from New York City has been granted to PSA by the original sponsor, New York's Metropolitan Camera Club Council.

It is hoped that PSA "Tops" shows will become annual events in many districts. It is hoped also that, eventually, these events will grow into full-scale regional PSA meetings, effective in bringing the organization closer to its widely-scattered members, making the best of current photographic work available throughout the country, and vastly expanding the educational and inspirational aspects of the "Tops" program itself.

History of New York's Show

The original "Tops" show, which annually fills to capacity permitted by fire laws the huge ballroom of New York's Hotel Statler, first was held in 1945. Late in 1944, the then Council President Paul Gibbs invited Council Director Mildred Hatry and Camera Columnist Mabel Scacheri, of the "World-Telegram & Sun," to consider with a small group of amateur photographers the possibilities of developing a dramatic photographic event which simultaneously would exhibit outstanding prints and color slides, present noted speakers, and permit of screening the best work of amateur motion picture photographers.

The idea met with enthusiastic reception and Mrs. Hatry became chairman of the operating group, or original "Tops Committee." Tentatively the group engaged space in the meeting room known as the "Penn Top" on the roof of the Hotel Pennsylvania. When the time came to select a name for the event, Mrs. Scacheri suggested that, since the program was to be presented in the "Penn Top" and would exhibit the highest forms of photographic endeavor, it be known as "Tops In Photography."

The Council's Board of Directors, fearing the worst but also realizing the necessity for initiating some inspirational event for photographers—as well as the need for bolstering the Council's sagging financial position—approved the original plans for reserving one-half the available space for one evening in March 1945. Tickets were printed and made available at \$1.20. Within weeks the demand had become so great that additional tickets had

Adapt New York's Big Camera Spectacle to Regional Meetings

to be printed and additional space engaged. The opening "Tops" was attended by 700—and as many more were turned away for lack of room.

For the 1946 "Tops" the Council engaged the entire ballroom of the hotel, and reserved additional space for the exhibition of prints. Fears were expressed that the success of the first show could not be repeated, but the whole 1,200 tickets were sold before the Council's Board could develop a serious case of jitters—and weeks before the event! Tickets for the 1947 show were advanced to \$2.00; again the event was a sell-out. Since then tickets have been priced at \$2.40, including Federal tax. Upon each occasion hundreds of interested photographers have been turned away—and the Council can find no more commodious space short of Madison Square Garden!

The "Tops" program combines photographic entertainment with education and inspiration. Speakers are outstanding photographers whom the average amateur seldom hears or sees. They have included Steichen, Sarra, Hiller, Oelman, Floyd Evans, PSA President John Mulder, John Doscher, and Elbert Ludlum. Their informative and inspirational talks, dealing with photographic trends, methods, processes, and objectives, have been directed toward encouraging a greater and more purposeful use of the camera by the amateur. By and large they have avoided the argumentative and have recognized photography realistically as an art and a science and a medium of expression which can be effectively used. Masters-of-ceremonies have been Council Presidents Paul Gibbs, Clyde Boyles, and Walter McKee, and Carl N. Sanchez.

Each program is based upon the original, popular, and successful concept, with such changes as the times and developments demand. An inspirational speaker on photography, with special reference to work in monochrome. An informed speaker on color photography, showing outstanding color slides. These slides include the winners of Council monthly contests. Three amateur motion picture films, selected and presented through the cooperation of the Metropolitan Motion Picture Club. Among these are selections from the Amateur Cinema League's "10 Best," plus films of local scenes and subjects made by local amateurs.

In exhibit rooms outside the ballroom are displayed hundreds of outstanding prints collected from photographers throughout the world. They form a remarkable invitational exhibit because they comprise the pictures

which the makers themselves regard as their best. No judge or jury selects them; they are hung as received. In an adjoining room is a special exhibit of prints—the two best of the year as selected by camera clubs from the work of the members of each of the more than 100 camera clubs affiliated with the Council.

Something which the Council's "Tops" Committee never plans, and which it little understands, but which invariably is an outstanding feature of the show, is the inspirational effect upon the audience. The combination of prominent speakers, excellent exhibits, amateur movies, and the presence of more than a thousand active, enthusiastic photographers apparently is responsible. This inspirational effect may be intangible, but scarcely nebulous. Each year photographers respond enthusiastically to the "Tops" program. Each year there seems to be a rebirth of photographic endeavor. Each year camera club officers report an upturn in member interest and activity after the "Tops" show.

The 1950 "Tops"

The 1950 show, presenting Floyd B. Evans and PSA President Mulder as speakers, and exhibiting nearly 400 prints from the world's best photographers, plus some 200 more from Council camera clubs, developed also an added attraction. As soon as the program ended, the prints were moved to the observation lounge atop the Empire State Building for a 30-day salon.

Special stickers, indicating that the prints had been displayed above the clouds, were affixed. Camera club officers and members were hosts each day and evening. It is estimated that more than 15,000 visitors viewed the exhibit each week. In fact, it was so popular that the Empire State Building management, under the direction of General Hugh Drum, initiated a prize contest for photographs made of or from the city's highest structure. This contest, which will be conducted throughout the summer of 1950, will bring the winners prizes of \$50, \$25, \$15, and \$10 each, and put checks for similar—and additional—amounts in the treasuries of the camera clubs of which they are members. Furthermore, members of PSA and of camera clubs are permitted to use tripods in making their pictures and also, upon application, will be granted reduced fees for groups.

While various reasons—including magic and professional proficiency—have been advanced for the phenomenal success of the "Tops" show, now the Council's largest single source of operating income, the real reason may be found in the hard, prolonged, self-sacrificing work by men and women interested in the Council and in photography. Another good and substantial reason for the show's success is far-sighted planning.

Planning

The New York "Tops" show customarily is staged in March. Plans for the next year's show start the very next month—in April! First step is a complete review of experience and a study of audience reaction, with emphasis upon where and how improvements can be made. The next step is the assembling of reports from the Council's member clubs, particularly at Council meetings of club delegates. These are highly vocal affairs, with no holds barred and no punches pulled, insofar as construc-

tive criticism of "Tops" is concerned. During this early period also consideration is given to speakers for next year's show, with the Council seeking recommendations from member clubs and from many individuals.

Late in the following fall the actual work starts. Committees are appointed. Space is engaged. Photographers are invited to send prints. Speakers are sought out months in advance, advised as to the nature of the program, and urged to develop their part in it. Committees hold frequent meetings to go over every detail of the growing program.

Dawning of the new year is the signal to the Council to print the program and tickets. Every camera club is assigned its quota of tickets, based upon the size of its membership. Handling this quota is made the special responsibility of a club representative. The sale of tickets proceeds slowly at first, then gathers momentum until, in the last few days, sales become hectic and competition for the coveted pasteboards decidedly keen.

During these days the Council's work is dedicated, and devoted, to the "Tops" show. The Council's executive secretary, Mildred Scales, leads a harried existence as the various "Tops" committees channel their operations through the Council office and seekers after tickets keep the telephone in a jangle. Through the years the Council has developed a special list of clients, many of them affiliated with no camera clubs, many others not even active in photography, but all loyal, enthusiastic, and perennial customers of the "Tops" program.

Committees meet almost daily. Display racks are engaged and arrangements made for delivery. Stories go to the newspapers; counter cards to the camera stores; announcements to the radio. Repeated visits to the hotel and its management lead to working out the details of cooperation between hotel and Council staffs. Prints, flooding into the Council office from all over the world, are unpacked, sorted, identified, checked against the program, and otherwise prepared for exhibition. Meanwhile, officers and members of the Metropolitan Motion Picture Club are screening amateur films for the "Tops" show, an operation marked by intensity of competition for a place among the "Best Three."

Setting up the Show

Early on the afternoon of the "Tops" show, the chairman and members of committees appear at the hotel.



Originators of "Tops" idea—L-R: Mrs. Mildred Hatry, APSA, Paul Gibbs, Mrs. Mabel Seacheri. Photo by F. Quellmalz, Jr.



John H. Magee, AFSA, arranging the "Tops" exhibition.

They are joined by officers of the Council and of camera clubs. And they are joined by dozens of others anxious to help. Coats are removed, ties loosened, and the work begins. This group erects the display racks. That group hangs the prints. This group adjusts the screen in the auditorium, arranges the projectors, checks the wiring. Another group brings various supplies to the hotel. Another makes arrangements for the tickets. Still another organizes the ticket-takers and the ushers, who become increasingly important as the crowd grows and available space shrinks. A group is contacting the speakers upon arrival, checking their accommodations and needs, going over the program with them, making certain that everything is understood and ready.

At 6:00 PM some of the Council officers don their coats, adjust their ties, wash their hands; delegate responsibilities, and join the speakers and master-of-ceremonies for the pre-"Tops" dinner. This is, basically, a social affair, but also the opportune time for the master-of-ceremonies to complete his arrangements, and his understanding with the speakers. Other Council officers and workers continue on the job, completing arrangements.

Exactly at 7:00 PM the doors open. The first of the huge crowd of photographers pours in. Knowing that they have only an hour before and after the show to view the exhibits, they swarm through the exhibit rooms, looking, comparing, arguing, and then file into the auditorium to assure themselves of satisfactory seats. At 8:00 o'clock the master-of-ceremonies mounts the podium, calls the meeting to order, introduces the speakers. The program ends at 10:30.

Some of the big audience immediately seeks out various speakers to obtain answers to questions. Others return to the exhibits to continue their tours of inspection. Commuters rush for their trains. Camera club members who have organized car pools—and some of them travel 100 miles or more to attend "Tops"—collect themselves and adjourn to parking lots. Those conversational groups into which every photographic gathering automatically and eventually divides proceed with their informal organization. Other groups visit the hotel's various bars and restaurants to discuss the evening comfortable, informally, and critically. At 11:30 PM the lights grow dim, the space is cleared. Coats are removed again, ties are loosened, and the volunteer workers begin the job of packing. The show is over.

Volunteer Workers

Special attention is invited to that phrase, "volunteer workers." The whole show is planned, operated, and directed by volunteer workers. They receive no remuneration. They buy their own tickets. They pay for their own dinners—if they can find time to eat. They pay their own carfare, both ways. Some have been known to dig down into their own pockets to grease the wheels when operations show signs of slowing down. Because of the efforts of these volunteers, every possible penny of "Tops" income can go into the Council's exchequer. Ordinarily, the Council benefits to the extent of better than 60 percent of gross.

PSA To Sponsor "Tops"

Conclusion correctly may be reached that, in planning for regional "Tops" shows in the Society's membership districts, PSA contemplates that these local affairs shall become something more than formal exhibits and lectures. Present plans envision nothing in the line of top hat, white tie, and tails. For a long time the Society has been cognizant of the need for bringing its members together at gatherings nearer to them and more convenient for them than the Annual Meeting. The Society has been aware also of the desirability of getting closer to its members, of providing additional membership benefits, of spreading the influence and the inspiration of photography, and, particularly, of developing some type of program which would permit of local sponsorship and activity.

Committee

Tentative plans for regional PSA "Tops" shows are being developed by a committee of which the chairmen of all PSA Divisions, PSA Conventions Committee, PSA National Lecture Program Committee, PSA Membership Committee, and of other pertinent committees are members, and of which Paul Gibbs is chairman. Other members currently include: Norris Harkness, AFSA; Mildred Hatry, AFSA; John Magee, AFSA; P. H. Oelman, AFSA; Carl N. Sanchez, Jr.; Clyde Boyles; and others familiar with "Tops" operations. This committee will be enlarged as the plans become detailed, but will remain broadly representative of all Society activities. Initially, the PSA "Tops" activity will have the backing of Mr. Harkness, who will personally participate in and underwrite the program during the formative period.

Each PSA Division is to organize and provide exhibits of outstanding examples of its own specialized photographic interest. In this way localities may enjoy—and many for the first time—some of the world's best in pictorial, color, nature, photo-journalism, motion picture, and technical photography. At the same time PSA Divisions are given opportunity to extend and expand their various spheres of influence and to interest new and additional photographers in their fields of activity.

While the "Tops" plans contemplate that fine photographs shall be brought into each district for exhibit, they comprehend also the assembling and the exhibiting of outstanding photographs produced within the district. This phase of the "Tops" program is regarded as being highly important. Often it is found that the local work

compares favorably; not infrequently, may be superior. In any event the program provides for facilitating the comparison of the work of many different photographers of different interests and backgrounds, an undertaking which contributes substantially to the educational and inspirational results of the shows.

Speakers

Speakers for PSA regional "Tops" programs are to be provided by the Society with the cooperation of the PSA National Lecture Program. It is the purpose thus to enable local PSA members and camera groups to present outstanding photographers and speakers whom they have long desired to hear, but never before have been available. At the same time the programs are sufficiently flexible to permit the appearance, if desired, of local speakers and photographers for whom there may be popular demand. It is hoped that the facilities of the Society, and particularly of the PSA National Lecture Program, will be utilized in such a way that local sponsors will be able to obtain those speakers they most desire.

While PSA as a national society will be interested in all regional "Tops" shows and will endeavor to help in every possible way, planning and management will be strictly local undertakings. PSA desires to provide the know-how, the speakers, and some of the exhibits; the rest of the program is the responsibility of the sponsoring local organizations. Furthermore, it is hoped that the local sponsors will see their way clear to bring into the undertaking as many as possible local photographic and related interests and organizations, including the trade. To such ends it has been recommended that sponsoring groups view photography in its broader aspects and include in the "Tops" program all those phases of photography which are of interest to as many photographers as possible.

Assistance

It is PSA's present plan to make available to sponsoring groups the experience and advice of representatives of various PSA Divisions, as well as of the PSA "Tops" committee, so that complete and detailed advance planning, with regard both to operations and to policy, may be possible. This work, indeed, can be initiated as soon as local members and groups, through their PSA District Representatives, make known to the PSA "Tops" Committee their desires to hold local "Tops" programs. The PSA committee then will work with the local group in the initial organization of a local "Tops" committee comprised of business manager, publicity chairman, public relations chairman, speakers chairman, trade chairman, tickets chairman, facilities chairman, and such other active members and managers as may be necessary. Representatives of the PSA committee plan to meet with local committees whenever and wherever possible and to help the local group in working out the details—all the way from obtaining speakers and exhibits to developing publicity and preparing the script for the master-of-ceremonies.

At the present time it is contemplated that local "Tops" programs will make tickets available to the public at a base price of approximately \$1.20. There may be special considerations for members of PSA, of local camera organ-



The ticket desk and some of the crowd at 1950 "Tops" held in New York City. All photos by F. Quellmalz, Jr., Hon. PSA.

izations, and others close to active photography. The local committee will be expected to arrange finances so as to meet the expenses of the auditorium and exhibit rooms and of various essential operations, as well as the travel expenses of the speakers. PSA plans to furnish the speakers, the exhibits, prints, slides, motion pictures, and related material. As has been indicated, PSA also will advise the local committee on operations. Net proceeds would be divided equally between the local sponsors and the Society.

While the importance of local "Tops" programs is obvious from the standpoint of presenting outstanding speakers and exhibits, there are many less obvious but equally important by-products and benefits. The "Tops" program has proved highly effective in arousing and inspiring photographers to new and greater effort. It affords direct benefits to the photographic trade and industry as reflected in increased local business. It is effective also in developing mutuality of interest and cooperation between various local—and perhaps discordant—photographic organizations, its flexible program enabling each to have a part. It permits of organizing and presenting locally a program of a class and calibre sufficient to attract major attention and to arouse widespread interest.

It is the belief of the PSA "Tops" Committee, based upon experience with the original New York program, that the only magic formula necessary to success is comprised of the equation, *Planning plus Work*. Properly planned, promoted, and presented, a "Tops" program naturally invites local interest and participation which may be developed as far as desired. Programs may be embellished by the participation of state and local officials, celebrities, and others of prominence. The programs may invite the interest of other local organizations, so that cooperation may be gained from organized movements such as the Red Cross, March of Dimes, Heart Fund, and others, if desired.

While, at first thought, it might seem that the cooperation in the "Tops" program of such outside interests might tend to divert attention from photography, there is reason to believe that such associations actually might tend to establish photography, and photographic organizations, as vital and important to the local scene. In other words, photography thus is made a definitely active

part of life as it is lived locally; it ceases to be a separate, detached, or unimportant.

There are, currently, 10 PSA membership districts. In effect, these districts afford opportunities for 10 local "Tops" programs yearly, or approximately one each month. It requires little imagination to believe that these local events could exercise a tremendously stimulating effect upon photography and upon photographers, upon photographic organizations and the trade, and upon PSA itself. Indeed, a successful "Tops" program could be just the event to stimulate photography and photographic organizations in any region where interest temporarily may have waned. Certainly the overall effect of a series of "Tops" programs could, and would, be most constructive.



Floyd B. Evans, APSA, and Council President Walter McKee.

An Inexpensive Easel for Large Paper

Johnny Appleseed's monthly "How To" stories, Oelman's dope on a print shipping container and a direct appeal from the Editor seem to indicate that there is a demand for a certain type of article for the JOURNAL. For many years I have been using an inexpensive enlarging paper holder of a type that might be of interest to quite a few PSA members.

Many fine easels are available in the stores, but the few that take paper above the 11 x 14 size are inclined to be rather expensive. The kind that I made is not adjustable for various sizes, so it will be necessary to have one for each size paper that you want to use. With the major cost consisting only of a piece of $\frac{1}{4}$ " or $\frac{3}{8}$ " plywood for each size, the expense is not great. Such a piece should be about one inch larger in each dimension than the paper it is to hold. For instance, for 14" x 17" paper this is

By D. WARD PEASE, APSA

15" x 18". The corners are cut off on a 45° angle just missing the printing paper area by about $\frac{3}{16}$ ".

The paper is attached to the board with the type of card hanger or clip shown in the illustration, a clip that can be obtained in a well stocked stationery store. In order that these clips will not have to grasp the whole thickness of the plywood, and so that they will not be what supports the board a diagonal undercut is made on the underside of the board at each corner, at the same angle as the cutting off of the corner, but coming in until it is $\frac{3}{8}$ " or so under the corner of the paper area. Leave approximately $\frac{1}{8}$ " of thickness for the clip to grasp in holding the paper.

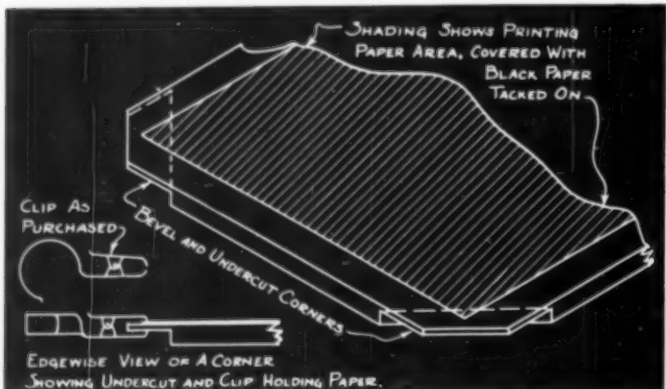
A piece of black paper of the same size as the enlarging paper for which the easel is made is tacked to the plywood with the smallest size shade-

roller tacks obtainable. This serves two purposes. It marks the location on which the paper is to be placed before applying the clamps, and it insures that there will be no reflected light going through the paper and reflecting back to introduce a slight fogging effect where it is not wanted. This is more serious with single than with double weight papers.

The clips used have the hanging loop as shown in the illustration when purchased. This loop is twisted 90° in order to keep it out of the way. I also use the same type of clips for hanging films up to dry and the twist puts the film crosswise of the string, so that more can be hung in a small space.

When used with the easel, I usually start with five or six clips on the enlarging table, so that if one is dropped, another can be used and the dropped one found later. These clips cover only a small part of the paper. If you wish, that area can be taken care of in spotting and the full size of the printing paper used.

A white card of the size of the printing paper serves for focussing purposes, also as a cover when making trial strips and for shading in large areas such as skies. Trial strips are cut the full width of the enlarging paper and held at each end by one of the clips, the strip occupying only one end of the easel. In working with the full sized paper, the slight tendency for the edges to rise above the surface of the plywood has been found to be of no consequence as there is ample depth of focus with my enlarger to keep the edges sharp.



Fluidity in Motion Pictures

VINCENT H. HUNTER, APSA

IN DISCUSSING this subject of fluidity as applied to motion pictures we might first search for a rough definition of the subject. "Fluidity," as we shall use it, might be defined as "the factors by which we are able to couple together a smooth flow of logical events to a logical conclusion."

Let us examine for a moment the fundamental difference between motion pictures and the lantern slide.

A lantern slide is an inanimate record. It has no motion of its own and can suggest motion in only a very limited way. It is often a complete visual unit in itself, having little or no connection with the slide which preceded it nor with the slide which follows it upon the screen.

A motion picture can accurately reproduce motion. Due to its characteristics it is possible to integrate to a high degree the relationship between scenes to tell a story, to create an effect.

Story-Telling Possibilities

Summing up we might say that the lantern slide, while able to produce some sort of emotion, is largely the presentation of a record. Motion pictures, on the other hand, have marked narrative or story-telling possibilities and are capable of arousing strong emotions. If these statements are true, why is it that so many of our amateur films are merely a collection of lantern slides? Why is it that we do not better utilize the wonderful possibilities of this peculiar medium which has such a strong appeal that, as Ott Oellin puts it, "it can make people laugh—it can make people cry?"

Is it possible that we amateurs so seldom tap the hidden qualities of the motion picture because we simply don't think? Is it possible that we think too much of the material aspects of the motion pictures, of cameras, emulsions, accessories? Are we inclined to ignore the emotional aspects and what might be termed the spiritual qualities of the motion picture?

These are not random thoughts. Send two men equipped with identical motion picture cameras to Zion National Park. One man may bring back a well exposed and beautifully composed motion picture which is nothing more than a collection of static scenes—lantern slides if you please. The other man may bring back a film of flowing quality, a film so charged with emotional feeling that it will stir you to the beauties of God's temples of stone. The first film is an adequate presentation of a record—the second a moving story, a reflection of emotions felt.

It is all very well to talk of the spiritual side of motion pictures and the emotional approach. But we must keep this discussion simple and practical. We want to talk of things we can see and do, and not of abstract things. It is true that you cannot put into a motion picture emotion which you do not feel. There are, I am sure, some things about motion pictures which we will never fully understand. Occasionally, some poet of the screen will

give us a glimpse of them, but they will be only fleeting qualities which we can feel, and not qualities which we can analyze. It is best so.

There are some simple elements which we can break down and put to practical use which will help us a great deal in our film presentations. The difference between the two films mentioned above was largely the difference between a film which moved and a film which did not—a film which was static and one which had the quality of fluidity.

It is easy to say that the motion picture has fluidity because it can reproduce action or movement. But this explanation only scratches the surface.

Movement is no guarantee against a dull picture. Millions of feet of motion picture film mirror movement of one sort or another, yet put audiences to sleep. Movement is relatively unimportant. Action is what we are concerned with—action and motivation.

Since we have already taken the liberty of defining fluidity, we might just as well compound the felony and define action as movement with motivation or "movement that makes sense."

I am sure that all of us have been guilty of loosely and improperly referring to movement as action. Even a mild analysis of action tells us that the use of motivation will add some sort of narrative or story-telling quality to our picture. And by this addition we have tapped the first reservoirs of fluidity—but only the first.

This word "action" as applied to motion pictures demands more than casual scrutiny. The dictionary defines action related to drama as: "The connected events on which the interest depends." No statement could be much more enlightening than this. Action is "The connected events on which the interest depends."

Action, therefore, gives us most of the ingredients which we amateur cinematographers need to mix in generous quantities in our motion pictures. But let's look at our definition again.

Need of Continuity

That phrase "connected events" is telling us in no uncertain terms that we must have continuity in our pictures. If we can point up the relationships between scenes in a sequence and weld the sequences together to achieve that "connected events," we will have come another step in our effort to bring fluidity to our pictures.

But there is another step given by the definition—the phrase "on which the interest depends." This brings back to our attention the word "motivation," because without motivation we cannot have much interest and unless we have interest in our picture we have nothing. It is most interesting how all these words such as movement, action, motivation, connected events, interest, etc., dovetail so perfectly.

Now that we have nailed down this "action business" reasonably well, I hope, let us look at another facet of

the matter of fluidity. This relates to the word "reaction." Reaction is quite often wholly ignored in most of our amateur motion pictures. I think we might define reaction as being the "result of action" or the "emotions set loose by action." Reaction is another step in heightening interest, maintaining continuity and flowing our story along to a conclusion. Further, the use of a properly placed reaction shot will get us out from behind many a cinematic eight-ball.

Let us take an example, a highly dramatic one in this instance. A boat capsized and a boy was drowned (this is what our script says). Shall we photograph the difficult scenes of the accident or shall we photograph the unbelieving agony on the mother's face as she is told of her son's death. I'm sure we all agree that the reaction method in this case would be not only easier to do but more powerful.

The Reaction Shot

Yes, reactions are one of the most powerful means we have of telling any story because the reaction shot presents such a strong emotional appeal. Visually it presents an advantage too, since it allows, in fact demands, that we use more close-ups. By the proper mixture of action and reaction we add significance, interest, continuity, and craftsmanship to our motion pictures. Any kind of reaction will help. Don't try to be too dramatic. Humor, disgust, anger, displeasure, amazement, or the well known double-take—all will stir some sort of emotion and help to carry the picture along.

Daddy is making ice cream. He is turning the handle of the freezer. We see his hand turning the handle in a close-up. This is merely movement because it does not have any particular significance. We cut to a close-up of Johnny's face. It is alive with anticipation. He is watching the hand turning the freezer handle and he is thinking how good that ice cream will be. We cut back to the hand turning the handle, but we no longer have just movement we have action. By the insertion of the reaction shot of Johnny, that which was only movement has been given meaning. We wonder when the ice cream will be done. Will it be as good as Johnny thinks it will? See how the reaction shot enhances the interest?

We can build up this sequence more by cutting to a picture of Daddy as he looks at Johnny. His face mirrors quiet amusement. We cut back to the handle. He turns it a little more slowly. Cut back to Johnny. He can't stand it. He starts to protest. We cut back to Daddy. He laughs and then we cut to a full shot as Daddy starts turning the handle faster and Johnny claps him on the back and registers elation. This is a simple way of building a simple sequence through action and reaction.

Summing up, I think we can say that reaction is as necessary to action as salt is to celery. Reaction can be used to strengthen action, it can be used to lend meaning to action, it can be used to lend suspense and emotion to action, and pictorially it is mighty sound shooting technique.

We have not said much about motivation, but it is a most necessary part of our recipe for fluidity. I think it is a safe rule to say, "have a reason for everything." Motivation will make our picture components fall into

proper slots probably better than any other factor with which we have to deal.

Well developed motivation may lead the audience to anticipate a little. It makes us expect the villain to react as he does, or that the hero may react differently than the villain. If we know Johnny is hungry, we expect the satisfied expression which we see on his face as we cut to a closeup in which he is shown eating a hot dog. The sense of anticipation should not be carried too far. The picture, not the audience should tell the story, but as long as the motivation is well established, as the story unfolds you will be surprised how well you will accomplish that feeling of fluidity.

It is difficult and even dangerous to attempt to lay down hard and fast rules for motion picture procedure. What one person can do with dubious results another can do with extreme success. Therefore, it is impossible, outside of the fundamentals of movie making, to be dogmatic about the "dos" and the "don'ts." In no branch of photography is so much left to the individual taste. Therefore, it is a good idea to hold tight to motivation in your own movie making to the point that you have a reason for doing the cinematic things you do.

It is necessary to give particular attention to the pacing or tempo of the picture. This matter of tempo is one of the secrets of making a good picture with the quality of fluidity. Proper pacing is one of the signs of a good craftsman. Our picture should not move jerkily—now with celerity, now with hesitation. Some sort of evenness should be maintained. This does not mean that the entire picture should move at one pace. A change of pace is often very beneficial, but the tempo should match the subject. We know that, in general, short shots speed the tempo and longer shots slow it down. Naturally, we do not expect to see a living room scene cut in the tempo of a posse and outlaw chase sequence. If you have a specific reason for pacing your picture differently, do not hesitate to do so, but unless you do, you will probably find that a moderate start with a gradually quickening tempo overall to the climax will fill the bill in most cases.

Plan in Advance

In order to bring all the component parts of your picture together in logical fashion and make them appear to "flow" over the screen, it is necessary to plan in advance. This means a certain amount of thought must go into the picture before you start shooting film.

This is not a plea for complete scripts, but it is wise to indicate where reaction closeups are needed and where interest can be heightened or confusion removed and footage saved by the use of cut-aways and closeup inserts.

When you cease being producer and cameraman and go into the "cutting room," which in many cases is another way of saying "the basement," be ruthless. Unless that pet scene really contributes something to progressing the picture, toss it out. Never see how long you can cut a sequence. Cut it as short as you can. Tell your story fully but briefly.

And remember, after the show if one of your friends comes up to you and tells you what a smooth motion picture you have produced, you are then an authority on fluidity in motion pictures.

"How To"

No. 6—TAKE A PHOTOGRAPHIC VACATION TO THE COAST OF MAINE

By JOHNNY APPLESEED, APSA

PREVIOUS "How To" columns have been of a technical nature, pointing towards helping you make better pictures from your negatives. We have stood together in the darkroom for many months, and here it is summer. It's about time we hung our darkroom aprons on the hook for a while and began to think a bit of replenishing our supply of negatives and movie film and having a good time with our cameras.

How does a photographer have a good time? It's simple, by taking pictures or movies, of course. But, you will say, "Where do I go to get pictures? I have exhausted all of the possibilities up at the lake and there is nothing around here to work on." Sure, sure, we all have the same trouble. There are never any pictures where we are. It's always that way. It takes some out-of-town visitor to point them out to us. By then he has made the pictures and gone back home, and it usually turns out that he uses one to win the big photo-contest we have had our heart set on, but just didn't have any-

thing new to send to it. But, you say again, "I want to get away from it all and relax." Who ever heard of a photographer relaxing? I never did, especially on his vacation. That's when he works the hardest!

So, you want to get away? Okay, let's go. Where? Well, how about Maine? You want to make lots of pictures—movies, black and white, color—don't you? Want interesting adventures? Like sea food? Want to meet



interesting, friendly people? Want to be the envy of all the gang in the camera or movie club? Did I hear you say, "Yes"? Well, come on and see where Johnny Appleseed has been and what lies in wait for you.

Itinerary

Since we do not know where you live, let's begin the trip at Portsmouth, New Hampshire. It's up to you to find your way there. To get to Maine, drive across the bridge (Route 1) to Kittery. That's a good place to start, since Kittery was settled by Johnny Appleseed's forebears and he is right proud of that. Maybe that's why he likes Maine and the sea so much and wants everyone to like them too.

This trip will take you from Kittery to Camden. By direct route it's only about 150 miles, but by the *picture route* you will cover nearly 1,000 miles if you take the full ten days. You can plan on averaging 100 miles a day. You will understand why when you study the map. Note how the long peninsulas reach far out from the mainland. To get to their extremities, you must drive an average of 20 miles and return via the same road. This means that you have not made any forward progress at all, but there is one great advantage to this system: you



Lobster Floats at Perkins Cove, Ogunquit.

can do some very pleasant driving, see a lot of territory, and still not be any great distance from where you started. As you get into the trip itself, you will see how nice it is to be able to "move" from one place to another in an hour or less, get established by noon, let's say, and have the whole afternoon, evening, and part of the following morning to see the area and work it with your camera.

Here is a plan which your friend Johnny developed and which works quite well. His day starts at 5:45 AM. After a quick breakfast, he heads to the picture area which had been decided upon the night before. He works this area until about nine o'clock when the light flattens and subjects lose their interest. He returns to his lodgings to go back to bed for about two hours. Before doing this, however, Mrs. Appleseed (who had been sleeping all this time) has been given instructions as to where to settle for the next night. She then takes the car and goes in search of a good place to stay. Back in a couple of hours, we then move on and settle in the next place shortly after noon. This allows all afternoon to prowl the new area, selecting the best spots to cover during the late afternoon, evening, and following morning. It is understood (of course!) that all PSA wives are like Mrs. Appleseed and will be agreeable to this moving routine.

Cost

Of course, the cost of traveling can vary with different people, so we can only assume that your requirements are of a modest nature and you will want to stay within a small budget. Let's say that you can spend \$15 per day, for two people, including all expenses. A breakdown by source is likely to be as follows:

Lodging (for two)	\$5.00
Meals	8.00
Gas and Oil	2.00
Total	\$15.00

This does not allow for many extras, but you will find that it can be done. Costs will vary to some extent. For example, some cabins rent for \$6 per night, whereas a room in a guest house may be only \$3. Meals will also vary according to where you eat. Lobster dinners are

not exactly cheap anywhere, but other sea foods are quite inexpensive.

Things You Should Know

Maps are a big help. Write to the Maine Development Commission, State House, Augusta, Maine for coastal maps and other publicity. Be sure to write to the Socony-Vacuum Touring Service, 26 Broadway, New York City and ask for their Cruising Guides Nos. 1 and 2. The Damariscotta (Maine) Information Bureau has a good map of that area which will be of value.

Watch for boat trips to some of the islands off the coast. There are a number of these, especially from Booth Bay Harbor, and they will enable you to see much more of the coast line than you would from the car. Monhegan is the main island attraction, but there are others. Most of these trips to nearby islands are within protected waters.

Kittery to Portland (see map)

Starting at Kittery, follow the shore route (1A) to York Village and York Harbor. Do you like to make pictures of lighthouses? If you do, watch for the turn-off to Cape Neddick. Back on the main road again, you will find a number of picture spots all along the route. Following it, you will come to Ogunquit which is the first overnight stop.

Ogunquit

There are hundreds of guest houses and hotels in this resort area. If you want a cabin, and there are many advantages to having one, you will find a good one on Route 1 just to the south of Ogunquit and which is adjacent to the Ogunquit Play House. This is a fine summer play house, and what better way can you spend the evening than to see a good play?

From a photographic standpoint, Ogunquit is an area and not a place. Perkins Cove is the first locale for which to head. You will have no trouble finding it; simply follow the signs pointing to the Whistling Oyster, a fine place to eat, incidentally. Wear a coat.

While we are in the eating department, this might be the best time to tell about the fabulous place to get lobster-in-the-rough. You will have no trouble finding it here, since it will only be necessary to follow the crowd. It's a place run by a couple of hardworking gents who feel that a person who loves lobster is not prone to stand on ceremony when eating is concerned. When you place your order (standing at a counter) you are given a tag with a number. This tag matches a bag containing the lobster which is lowered into a large copper tub and steamed. When it comes out, your number is called and you step up for your order. It is given to you on a paper plate along with some melted butter. You can, if you wish, get a bag of potato chips and a bottle of pop. From here on, you are on your own. You can eat where you wish: at a plain board table (if there is room) or outside on the rocks. It's all very informal. If you have to wait don't be surprised or disappointed; that is the routine. Besides, you can place your order and then go take pictures while waiting for your order to come up. This will

be a real adventure in eating and well worth the price, I might add.

The quaint harbor, the unusual lift bridge, the Art School (you can go in and paint nudes all afternoon for less than a dollar) and the general atmosphere of the place will make your visit well worthwhile. You will get pictures too, never fear. Get down early in the morning, the best picture-taking time for the spot.

A couple of miles to the south of Ogunquit is a place called Bald Head Cliff. It is marked by signs. There is a nominal charge to park your car, but when you see the cliff and sea, you'll really drool. What a spot for seascapes! Just hope that the light and surf are right because the possibilities are endless. Take a moment to study your composition so as to balance the great mass of cliff with some rocks in the foreground. They are there if you will look.

Leaving Ogunquit, follow Route 1 to Elms, which is the turn-off to Kennebunk Port (Route 9). This is an interesting place but usually hasn't much to offer in the way of pictures. Watch for a big old schooner which is tied to an old wharf. PSAer Don Jameson lives in the schooner during the summer. It used to belong to his uncle, Booth Tarkington, who once lived in it and where many of his great stories were written.

Danish Village

Next stop, the Danish Village. To get there, follow Route 1 north beyond Biddeford, and a short distance beyond Scarborough. You will see it on your right. If it is early and there is still room, move in, because this is a grand place to stay for the night and from which to work. The Village itself offers excellent picture and movie possibilities (in less time than it takes to tell this you will probably have shot at least one roll of film on the quaint, picturesque buildings). It is a dream in every sense of the word. The European-like little houses lining narrow streets have much to offer the observant photographer. Watch for the best lighting. Don't overlook the night picture possibilities with the street lights and the lighted windows. Mrs. Byron (the proprietor) is very accommodating. Just tell her that Johnny Appleseed told you about the Village and you will be welcome. You can eat here too, or it's only a short drive to Pine Point, where you can eat at Snowberries. Mrs. Byron will tell you how to find Snowberries and while you are at it ask her to tell you the interesting story of the Danish Village.

At this point, you are only 15 miles from Portland and you should be looking at your film supply because there is little doubt that you have used far more than you thought you would. Give some thought to getting a fresh supply. Better buy about twice as much as you think you will need because you have just started making pictures. The classified section of the Portland telephone directory lists camera stores.

Cape Elizabeth

Still interested in lighthouses? Well, here they are: two of them and they are beauties. Both morning and afternoon are okay here. Don't forget to wish up some big white clouds for a background because the lights are so placed that you can shoot them against the sky. To get there from the Danish Village, go north on Route 1



Statue and Houses at the Danish Village.

for about a mile to the blinker light at Route 207 and turn right. Follow this road for about two miles to Route 77, turn left. Soon you will see a sign pointing the way to the U. S. Coast Guard Station and two lights. Go into the Station and to the lighthouse. There is a little place to eat here if the fancy strikes you. The light is on top of a high hill. You can get good shots and movies from various positions on the way up to it. You will find some wires running to the light tower which will present a problem. The pole is the most bother, but can be blended with the house if the angle is right. From the other side, you can crop the pole out of the scene and get a fair shot. Believe it or not, the birds are the worst problem with still pictures here because they live in the light tower and just when you are about to snap the shutter, some may fly out or in. You know what they'll do to your picture!

Portland Head Light

From the top of the hill near the Coast Guard observation post, look off to the north east. That white tower way off there is Portland Head Light, the most famous lighthouse for pictures on the Atlantic Coast!

Rush back to the car and don't count the times you are going to get lost trying to find Portland Head Light. Follow these directions to keep your getting lost to a minimum. Go back the way you came to Route 77. Turn right and proceed to the next intersection where you again bear right. Then go to the end of the road where you once more turn right and follow the sign which points the way to Fort Williams.

Proceed to the main gate of Fort Williams and turn in. Here you might get cold feet because the guard has a gun.

You are loaded down with a lot of camera equipment on a military reservation. Besides, you are thinking, this is just a little bit too much like old times. It's something like going back into the Army, and maybe, if you do get through the gates, they might forget to let you out. That has happened before!

If you didn't have cold feet before, you certainly have by now, so in a faltering voice you announce to the guard that Johnny Appleseed said that this was the way to the lighthouse and you want to go there to see and photograph it (just for the folks back home, of course). Now, the guard does not know who Johnny Appleseed is, but since he might be a friend of The Captain he tells you, "Go ahead, but don't stay after five o'clock!" So you drive ahead just as though you knew which of the maze of roads leading off in all directions will take you to the lighthouse. I got you by the guard didn't I? Well, now you are on your own and you will have to find the way to the lighthouse like I did, and don't think it will be easy—not a bit!

Is there a photographer living who has not seen a picture or movie of this most famous of all lights? Probably not. At any rate, don't let that keep you from trying your hand at photographing the old tower. It is a perfect setup. The light stands on a rocky ledge high above the water. This ledge runs out into the water with the tower at the far end. There is nothing in the way of a disturbing background or other objects to interfere with the picture. Behind the tower is a series of small sheds running back to the living quarters of the keeper. The best view of the light is from the south side where you can walk out on another point of rock and shoot across a small cove. Or you can climb down to the base of the rock and shoot the tower against the sky. Watch for a wave to break on the small pebble beach in the cove. It adds interest to your movie and might give a good lead-in line. Afternoon sun is fine for this angle and is excellent for color.

Don't forget to look over the possibilities of the other side (north) of the light. It has a white picket fence along the cliff and that gives another lead-in line. Once here you will be good for the entire afternoon. It's a grand spot in rain, sunshine, or fog. In sunshine watch out for contrast—white lighthouses are infamous when it comes to plugging up highlights in negatives.

Do you remember the way in? Well, you get out the same way. When leaving the main gate, turn right. This takes you to South Portland where you do not cross the bridge but bear left and proceed to Route 1 where you again turn left and return to the Danish Village. At 5:30 pm the light is good in the Village and you can shoot a few more rolls of stills before taking a shower and getting ready for dinner. Don't pack the camera away though, because after dark is a good time to try some night shots of the buildings. Be sure not to jar the tripod while you are slapping those big, nasty mosquitoes.

Adventure

Still with me? Having fun? Shot a lot of film? Yes? Well, hang on because we have only started! Want an adventure? Maybe you had better listen to what Johnny Appleseed did and then decide for yourself if you want to try it. Before going to bed it's a good idea to decide



Pemaquid Point Light at Dusk.

where you should head the first thing the following morning. That is when the light is at its best, so you should pick the likeliest place which has the most to offer in the way of pictures. Now, in the case of Cape Elizabeth, I felt that to get out to Portland Head in the early hours would offer the best chances, especially if the fog was right. There was only one catch. Visitors are not allowed in the reservation before 8 o'clock. That's much too late.

After a night of turning and tossing, trying to figure a way to get by the guard at the Fort, I decided to let lady luck play her part in the deal and got up at the crack of dawn to drive to South Portland, and stopped for breakfast, since there is no place to eat at the Fort (unless you are in the Army). I headed for the Fort with all kinds of unconvincing arguments running through my mind and wondering what the worst penalty would be for trying to break into the place ahead of schedule. Suddenly my troubles seemed to vanish like fog under the rays of the hot sun, for here was the answer to the whole problem! That is, provided I could convince that soldier that I meant no real harm. For here was a lad waiting for a bus to take him back to the Fort and he was sure to welcome a ride. He did, and after I had bared my soul to him, he was agreeable to the plot. He would try to get me by the gate, but from then on I would be on my own and for goodness sakes, stay out of sight of the "Louie" or we would all be in the soup. Of course, this was all predicated on the wholly uncertain provision that the guard would be a pal of my friend and would "overlook" the fact that someone was driving my friend in to his barracks.

As we turned in the gate the die was cast (and so was the pit of my stomach). Well, it worked like a charm. As my friend got out of the car at his barracks, his parting remarks were to the effect that I had better not be seen by the "Louie," and since the guard changed at seven o'clock, there was always the problem of getting out without some questions being asked; but he had done his part, hadn't he? I was in! My only consolation was that at least I could get a picture that no one else had ever made.

Or would I? The lighting was poor and that old fog was some place way out to sea. A picture, did I say?

Shucks no! Besides I had to lie low until after eight o'clock at least before trying to leave. Perhaps it would be better to wait for the crowd of visitors to come and maybe the guard will not remember my coming in when I go out. Eight o'clock, 9 o'clock, 10 o'clock, still no visitors. Not a soul! Where the heck are all the tourists in this part of the country? If I don't get back to the Danish Village pretty soon my wife will think I've been shot. What's worse, we might have to pay for an extra day because we did not move out in time.

I finally decided to take the bull by the horns and drive out the gate just as if I did it every day. Did someone say that (some) photographers are nuts?—Amen Brother—Well, I drove up to the gate and nodded affably to the guard. He looked at the car and took a long look at me. Then he looked over towards the guard shack and the table where the record is kept. He must have figured that such an honest looking guy must be on the record, so motioned me on. Did you ever have the feeling in the back of your neck that someone was drawing a bead on it?

By the way, that early morning picture is still there. I didn't get it. Now, don't all try the same stunt!

Route from Portland to Wiscasset

As mentioned before, Danish Village is only 15 miles from Portland. From here to Brunswick there is little to capture the interest of the photographer, so take the shortest route, which is U. S. 1.

Have you ever heard of Bean's at Freeport? It's a famous sportsmen's store and well worth a visit. A side trip from Brunswick down Route 24 to Bailey Island is interesting too and informative, since it will initiate you to the geography of the coast from here on north.

Now you find a great series of long peninsulas running from the mainland out into the ocean. Most of them have fine paved roads and are approximately 20 miles in length, making a 40-mile trip to go out on a peninsula and return via the same road, and you do come back to the same spot from which you started.

Unless you have a lot of time, it is a pretty good idea to know beforehand whether or not the peninsula has picture possibilities out at the end. In the case of the peninsula to Bailey Island, I will say that if you have the time it is well worth the trip. You might get a picture or two and then again you might not. At least, it will not be wasted time, since all photographers have to eat and out at the very end, at the foot of the hill leading down to the ferry landing, is the best spot for lobster stew on the Maine coast: less than a dollar per portion and you get a whole lobster (cut up, of course) in the bowl.

Returning to Route 1, turn right and head north to Wiscasset. You will note that all along this road from Portland to Wiscasset there are many tourist cabins and other places to stop. However, after leaving Wiscasset there are very few good cabins and you should watch for guest homes or a hotel. The road to Wiscasset has nothing to offer in the way of pictures. Even the peninsulas running down from this area do not have sufficient picture possibilities to make a visit worthwhile. Beyond Wiscasset it is a different story. You are once more in picture territory and what pictures! Got plenty of film? You'll need it.

Wiscasset

This is one place with an abundance of historical background. It dates back to the days of the "Sailing Ships" and the homes here are very interesting indeed. Do take time to drive around the town. There might even be a few pictures of the old homes. There are several places to stay overnight, with The Inn probably the best.

From here on north you should go out on all of the peninsulas. By studying the map you will see that the lateral distances between towns is quite short, but the distances out to the ends of the peninsulas is, by comparison, considerable; therefore, when selecting a place to put up for the night or for a few days, it would be most logical to stay in one of the towns at the mainland end so as to be able to get to where the pictures are without having to do a lot of driving. In other words, you should work from the hub of the wheel. To follow this line of thought, I suggest that you stay on Route 1 out of Wiscasset and head for Damariscotta and Newcastle.

Damariscotta Information Bureau

They call themselves a "Model Information Service" and they are quite right. Situated at the top of the rise on the main road going north out of Damariscotta, this oasis for the weary traveler dispenses help and aid to all who stop. It is staffed by the kindest and most cooperative folk Johnny Applesseed has come across in all his travels. If you are looking for a place to stay for the night or are only looking for a detail map of the vicinity, then by all means stop and ask them to help you.

Damariscotta and Newcastle

The "Twin Villages" make an excellent place to stay. From here you can "work" any of several areas. It is a half hour drive to Boothbay Harbor, or to Christmas Cove, to New Harbor or to Pemaquid Point. See the advantage of staying inland? There are several good restaurants here. The River View is fine for an early morning breakfast on the run. Lobster ponds can be found at Boothbay, Pemaquid Harbor, New Harbor (where it's possible to get a picture by leaning out the restaurant window) and Round Pond. Each of these are inexpensive places to eat with the exception of Boothbay where there is quite a choice of eating places.

Boothbay Harbor

This is not a very productive place for pictures, probably because it is a resort and because there is not much in the way of quaint settings. A good bet here is the early morning with fog to blank out the bad backgrounds. The east side of the harbor seems the best. Look over East Boothbay while you are at it.

New Harbor

Here is a place to really burn up film. Early morning either with or without fog is an excellent time. For movies and action there's lots of activity by fishermen and lobstermen preparing for the day's trip. There's something doing every minute from sunrise until 8 P.M. You won't even have time to stop and eat until the fog lifts or the light flattens. Late afternoon is a good time to come back for more stills and movies of fishermen returning, and lighting is usually fine right up to sunset.



Early Morning Reflections in One of Maine's Harbors.

There are three main docks on the north side of the harbor. Some of the fishing shacks nearby have good possibilities if the light is right. One note of caution: the lighting and the locale tend toward a lot of contrast so be careful in processing these negatives (meaning of course, to underdevelop if necessary).

Christmas Cove

This is an interesting place when the yachts are in. The main drawback is the background, so hope for fog. It will take care of the problem for you.

Pemaquid Point (A superb spot)

It has almost everything to offer the photographer in the way of seascapes and surf pictures, both for black and white and color and for movies. The rock foundation is such that you can get some fine compositions. Plan to get there at a time when the tide is coming in and if the surf is good, you will really have a time for yourself. Pemaquid Light is probably the most photographed light-house on the Maine coast with the exception of Portland Head Light. It is well kept and has few wires to interfere. Try early morning and late afternoon for the best lighting. After dark is a fine time too. You can eat here if you wish. Don't object to the nominal fee to drive to the light. It is money well spent, since it is used to keep up the grounds so that all may enjoy it more.

Long Cove Point

If you want some spectacular surf movies, try this spot. It is located to the northeast of New Harbor off Route 32. The rock formation is such that breakers will roll in with a long "break" and will give a lot of spray: sort of

aquatic fourth of July. Of course, there must be good surf to make this worth visiting.

Pemaquid Beach

Did you bring the family along? If so, this is a good place to take them while you go in search of pictures. It's a fine beach with a couple of places to eat and a good spot for sun bathing. Sooner or later everyone learns that the sea along the Maine coast is one cold place to swim.

Damariscotta to Camden

Follow route 1 all the way. There are a number of places to stop. I suggest you stay in Thomaston, which if you look at the map, is another hub from which you can work. It's a charming town with a number of good places to stay. Did you ask the Damariscotta Information Bureau to recommend a place for you? You should have. It saves time. Maybe you are anxious to get back into a cabin again; in that case you must go beyond Thomaston. The distances are short, so it won't matter if you go beyond Rockland. If you do, you will find yourself on West Penobscot Bay, which is a beautiful body of water and runs many miles north before the road crosses to come down the other side.

Camden is a short distance north of Rockland and is as far as we go on this trip. This area includes a number of good spots, all of which have picture possibilities, so we will take them one by one in detail. There are a number of good tourist cabins along the road between Rockland and Camden, all of which will serve comfortably for a few days' stay. Some of these are situated so that they look out over the bay, which is most desirable. Probably the best of them is The Ledges at Glen Cove, a short distance north of Rockland. Tell Mrs. Stevens (proprietor) that Johnny Applesseed sent you and you will be welcome.

Rockland

This is the center of the fishing industry for the Penobscot area and in many respects is a commercial port. With some luck you can obtain a number of good shots. Go first to the municipal wharf to get the lay of the harbor because it is a big one. Early morning is best for Rockland because the sun rises over the outer harbor. If there is fog, you are lucky. Incidentally, they have an excellent Art Gallery in Rockland and it is well worth a visit.

Rockport

This is the first harbor north of Rockland and is worth a visit.

Camden

You will like this harbor. It is quite active and has much to offer the movie and still photographer. Yachts predominate the scene except on Sunday when the wind-jammer schooners are in port. They are very picturesque, being strictly sail vessels, and some are a hundred years old. They tie up to the docks on the west side of the harbor and can be reached from the city wharf or better yet from the Yacht Club. If you arrive early, before the wind comes up, you can get some fine reflection shots.

On Monday morning they leave for their cruises and are a unique sight as they sail out of the harbor.

There are a number of good eating places in the Rockland-Camden area. For breakfast, try Newbert's Restaurant on the main street of Rockland, near the corner where you turn to Thomaston. For supper, the Oak Hill Restaurant on the main road between Rockland and Camden is a quiet place with excellent food.

Friendship (South of Thomaston on Route 220)

This port is typical of the many small fishing and lobster villages. Hatchet Cove is the place for which to head. It is lighted well both morning and afternoon. A good lobster pond is located here with reasonable prices.

Port Clyde (At the end of Route 131 out of Thomaston)

This is a very interesting place with the proper light. Follow the road down the hill and you come upon a couple of fishing shacks in a good setting, located on a small cove which has other material to photograph as well. From here you can take a boat out to Monhegan Island (better check first to make sure that they are not going to stay out at the island overnight).

Spruce Head and Owl's Head (Points of land running into Penobscot Bay)

Owl's Head is another lighthouse and can be reached by going south out of Rockland and turning left at the first intersection. Follow this road to where you think Owl's Head should be—then ask directions to the lighthouse because it is up a little lane in a woods. You can drive in part way to where you must park your car and walk about a quarter of a mile to the light, which is located on a high cliff overlooking the bay. The view is excellent. Picture possibilities are doubtful: too many trees.

To get to Spruce Head, take the same road out of Rockland and follow it to South Thomaston where you bear left at the cross roads. There is a lot to see here and fog will help the backgrounds in pictures.

Conclusion

Well, that's it folks. You have not seen all of the Maine coast by any means. Nor have you made all the pictures or movies that are there to be made. I hope that you have found some spots that I have never seen. If you have, why not tell me so I can tell others? Why not drop me a card from Maine, telling how you find things? At any rate, you are sure to have lots of pictures and this winter you can relive the trip in the darkroom. I hope that you will have made some new friends and helped to pave the way for other PSAers to meet these nice people and have themselves a grand time too. Maybe I'll see you there. Watch for the PSA decal in my car window.

By all means, don't go on the trip without this PSA JOURNAL to guide you!

Do you like as much as I to travel for your pictures? I know my way about much of the U. S. and Canada. How about Cape Ann? Nova Scotia? Vermont? Gaspe? Quebec? Do you like travel photography mixed with other subjects in "How To"? This is your column. Its future depends upon your response. Why not write to PSA JOURNAL, Vol. 16, June 1950



The Surf at Pemaquid

Johnny Appleseed at PSA Headquarters, 2005 Walnut Street, Philadelphia 3, Pennsylvania, and tell him what you want.

Wouldn't it be fun if, after we have printed our best Maine negatives, we assembled a traveling print show for distribution to camera clubs?

Next month: How To—Wax or Lacquer a Print.

COMMUNICATIONS

Watertown, Massachusetts

DEAR JOHNNY:

Where can I get paper suitable for making bromoils? It seems that American manufacturers have not resumed making such paper since the time that they stopped during the war.

MISS MARY R. WALSH

DEAR MISS WALSH:

Being somewhat inexperienced in bromoils, I have turned to Edward L. Bafford, of Baltimore, Maryland, for the answer to your question. His reply is as follows:

"Being an old timer at bromoils myself, it has been quite a job to keep going, with all of the papers taken off the market. However, George Murphy of New York City is, at this time, importing a bromoil paper from Belgium, which works very well for me. [Medo, 15 W. 47 St., New York City, carries an Bford De Luxe Bromide suitable for bromoil. Ed.]

"You may try this paper and if, by any chance, you have trouble with it, let me know and I will send you my formula for using this particular paper."

Here and now I am going to issue a plea for further answers to the same question, with the hope that some of PSA's bromoilers will be drawn out and that they will send in comments and replies.

JOHNNY

Sumter, South Carolina

DEAR JOHNNY:

I have read with much interest and enjoyed your series of "How To" articles. I have been particularly interested in your

most recently published article on "How to Develop by Inspection" because I have been using this method for several years.

I use D-23 developer. My green safelight contains a 7½ watt bulb and is set on the table so that the face of the light is turned tight against the wall. When the light is on, only a thin circle of light is seen around the edge.

Development begins with the light off and continues until development is approximately 60 per cent complete. At this point the film has lost enough of its sensitivity so that the safelight may be turned on and one edge or side turned away from the wall about an inch. This will not be sufficient illumination to examine details of the image, but the shade of gray in the negative can be distinctly seen at two to three feet from the reflected light source, and the fast pan film will not be fogged by it.

When the light creamy-white portions begin to turn gray, you know that you are building up details in shadow area. The shade of gray will tell you when you have enough. In negatives where there are no deep shadows to worry about, the over-all shade of gray on the emulsion side determines the density. You soon learn to recognize the shade of gray that you want, anywhere to jet

shiny black which is just about maximum density. By extending development, you get the degree of contrast that you want when the subject is flat, or if it is highly contrasty, shortening the time will bring soft luminous shadows and highlights that are not blocked up.

HUGH F. WALBURN

DEAR MR. WALBURN:

Thank you for your comments and for disclosing your method of inspection development.

I note that you do not use desensitizer and so you must use much less light than I advocate where desensitizer is being used. As a result of your low illumination, you must guess at your shadow detail.

Why not give desensitizer a try and use a 25 watt bulb with film held at 1" from a 5 x 7" safelight?

JOHNNY

Rochester, N. Y.

DEAR MR. APPELSEED:

I have read with a great deal of interest the two articles written by you in the January and February issues of *PSA JOURNAL*. They are excellent and I hope we see more of them.

In connection with No. 1 in the January issue on "How To" agitate black and white roll film in a daylight developing tank, I have one or two additional suggestions which might be of interest to you. Depending upon the type of emulsion, drying conditions, the degree of hardening of the emulsion and probably other factors, water spots are readily formed on 35mm film. It has been observed that the use of a squeeze with an absorbent cotton swab or a viscose sponge actually increases the number of very minute water spots. Sometimes these are so small that they do not show up until a 2 x 2 slide is projected or enlarged to make a print. A technique which insured elimination of these minute water spots and which also minimized physical handling of the film and particularly the emulsion surface, was to bathe the film in a solution of wetting agent such as Photo Flo for 1 to 2 minutes and then hang it up to drain and dry. Of course, the water flowed from the film more uniformly and more quickly and this decreased or prevented entirely formation of water spots and tended to decrease the drying time.

GEORGE T. EATON, APSA



ICEPLANT AND CACTUS

Charles J. Norona



By LOUISE BROMAN JANSON, APSA
6752 S. Kedzie Avenue, Chicago 29, Ill.

Color Slide Competition

The fifth Nature Division slide competition was judged by Russell Kriete, George W. Blaha, and W. K. Rayworthy. Of 162 slides entered, these were the winners:

Medal Awards

- "Young Blue Jay," by L. D. Hiett, Toledo, Ohio
- "Iceplant & Cactus," by Charles J. Norona, Los Angeles, Calif.
- "Rana Palustris," by Harry R. Reich, N. Tonawanda, N. Y.

Honorable Mentions

- "Lady Bug in October," by Rev. H. Bierenberg, APSA, Oil City, Pa.
- "Fox Squirrel," by F. E. Brichel, University Heights, Ohio
- "Bird Breakfast," by Edward A. Hill, APSA, Elwood, Pa.
- "Hen and Chickens," by Hermann Ponderhauer, Washington, D. C.
- "Fall Fattens," by Dr. Frank E. Rice, Chicago, Ill.
- "Little Blue Heron," by W. H. Savary, North Plainfield, N. J.
- "Ogryne Fieldglides," by Roy C. Wilcox, Meriden, Conn.
- "Tomato Worm," by Paul J. Wolf, Hawthorne, N. Y.

The next slide competition closes on September 15th. Entry forms are available

and may be obtained from the Division Chairman.

Bag of Tricks

After long experience afield the successful nature photographer eventually acquires a large "bag of tricks" to lighten his work in obtaining authentic and aesthetic pictures of natural history subjects. Specific applications to familiar objects frequently produce shortcuts in obtaining the final results. Each new appliance adds to the tricks of his trade. In the hope that some of these artifices may be helpful, a few are outlined herein.

For personal comfort and convenience field equipment should include such articles as a light weight plastic raincoat with an attached hood and a pair of rubber galoshes. Several plastic bags should be kept in a pocket of the raincoat to protect any equipment that might be carried without a case. These essential items should be taken in the car on all extensive field trips. Sudden showers become a delight when the photographer and his camera remain dry. During the mosquito season, a hat-type mosquito net, which can be obtained at any army store, saves many hours of torment while working in woods and swamps. A Boy Scout pocket knife is useful in many ways. In addition to a sturdy cutting blade it has a combination screwdriver, bottle opener, and can opener.

Some accessories are used repeatedly whether working indoors or out with plant or animal life. For general closeups artificial backgrounds often help to clarify the subject. In nature photography, colored backgrounds should suggest tones of earth, sky, or foliage. An ideal set can be made from art poster board. Decide upon a size that will be convenient to carry as well as cover the space required for the picture. We used 15x19 inches and made a light weight carrying envelope by reinforcing a 16x20 photo paper envelope with three inch paper tape. Copley gray and French gray are excellent for black-and-white work because the tones can be varied from light gray in sunlight to dark gray in shadow. For color renditions of nature subjects a good selection of backgrounds consists of pea green, green, sky blue, dark blue, wine, and heaver brown. It is suggested that sample slides be made by spreading the cards out in a line overlapping each other about six inches. Make three exposures: one in sunlight; one in shadow; and one indoors with artificial light. These three transparencies will serve as a guide in selecting the proper background tone for all subjects.

A very useful item is a reflector to render shadow detail in closeups. This can be made by firmly cementing wrinkled tinfoil to the inside surface of a small folding checker board. When working alone, how-

ever, it is inconvenient to use because of the strain of holding it in the same position for long periods of time. This problem can be solved by cementing or riveting a nut to the back near the center fold. Into this fit a small tilt-top equipped with a $\frac{1}{4}$ " threaded rod 12" long. Two pointed tips, one 4" long and the other 12", equipped with couplings, complete the stand. By coupling up a point of the desired length and pressing it firmly into the ground the reflector will hold its position indefinitely. To avoid unfortunate results, care should be used not to reflect any light on the background.

For pictures of subjects that hug the earth, a sturdy 14" tripod with an extension of the same length that will open flat to the ground is ideal. The working height is from 6 to 28 inches including the pan head. With this device it is possible to take closeups of moss and mushrooms, buttercups and beetles and still have a pleasant disposition. An old two-section wooden tripod can easily be remodeled. Cut the legs to 14". Then remove the necessary hardware, such as locking devices and tips, from their original positions and install them on the shortened tripod.

Have you ever come out second best in a battle with your focusing cloth on a windy day? If you have try this. Clip the cloth to the top front of your camera with two spring clothes pins letting it drape back and down over the ground glass. This is also excellent insurance if you have had any fogged negatives due to the action of Father Time on the bellows.

In plant photography Scotch tape, shoe laces, and a pair of diagonal cutting pliers or nippers are very helpful. The nippers are used to remove unwanted grasses, stems, and small branches when preparing a subject for a picture. The laces are useful in tying the stems or branches of the subject closer together to form a more pleasing arrangement, and also for tying back large branches and stems that should not be cut away. They are especially important when working in gardens, arboreta, and parks where removing undesirable material is forbidden. A straight twig can be taped across the lower part of two or more stems to bring a group of blossoms into the same plane. It is helpful to paint at least some part of the small

equipment—sunshade, knife, nippers, etc.—a bright red to avoid leaving them in the grass or on the ground.

When working indoors with plants a bread pan filled with wet sand is a good place in which to arrange twigs and other rigid stems. Fragile cut flowers can be set up in a wide mouthed vase containing wire mesh in which to insert the stems. For the dewey look that adds zip to certain flowers and mushrooms, use water applied with a perfume atomizer.

When hunting the swamps and marshes for toads, frogs, and other aquatic specimens to act as subjects in your home, a minnow bucket can be used to transport the loot. A long handled fine mesh net is a simple device with which to capture these creatures. A setting simulating natural conditions must be made to get successful shots of captured aquatic subjects. A large dark-room tray can effectively become a miniature marsh by using such props as mud, water, rocks, old wood, and small plants. A turtle can appear to be sunning himself on an old log; a frog can look quite at home beside some wet rocks and green moss. If the subjects include tadpoles or fish, a small aquarium is helpful. Several inches of clean sand and a few water plants create a natural setting. A sheet of plate glass should be used to divide the tank and confine the subject nearer to the front in order to make focusing easy. The water and the outside glass must be clean.

The best insect photographs are of living subjects. Because of their activity, this is very difficult to do in the field. A simplified procedure is to capture the specimens and work under controlled conditions. It is possible to work either indoors or outside by placing the subject within a four-sided plate glass container and photographing through the glass. Small plants, twigs, leaves, stones, or bark should be included in the set-up to make the picture look natural. Artificial backgrounds should be placed behind the cage. Sometimes the insect is best photographed while feeding upon honey, bits of fruit, heads of grain, leaves, or other insects. A useful technique for quieting many energetic specimens is the cooling process via the kitchen refrigerator. The exposure is made as the subject warms up and assumes a typical pose.

Small mammals, lizards, and salamanders

can be photographed through the glass of a cage similar to that described for insects. Props suggesting their natural habitat should be used to obtain realistic results.

A squeaking rubber toy is useful for obtaining an alert expression when taking pictures of wild animals. Deer, rabbits, chipmunks, squirrels, groundhogs, porcupines, and weasels pause momentarily to listen when a strange sound reaches their ears.

For the nature photographer who works outdoors at night a flashlight is a standard accessory. It is used to locate the subject, and to make the necessary adjustments on the camera. By placing the light facing the camera and in the same plane with the subject it serves as a point upon which to focus. After a long day of cactus flower photography, a flashlight saved us an 18 mile hike along a dark desert road by serving as a signal to flag down a speeding bus.



H. J. JOHNSON, APSA
1614 West Adams St., Chicago 12, Ill.

Club Bulletin Competition

Calling all editors!!!

How does your bulletin rank in the eyes of outsiders? It is easy to obtain an impartial evaluation of your efforts by entering this competition. Each bulletin receives an analysis of content, typography, by three judges scoring independently of each other. The editor receives these three scoring sheets, along with the written comments and suggestions of the judges.

Top prizes are silver medals, with the editors' clubs receiving plaques. Blue ribbons are awarded for various components in each of the classifications.

There will be two classifications: printed bulletins, and bulletins produced by any other method (mimeographing, etc.)

Any issue of your bulletin (except annual or anniversary numbers) January thru June 1950 is eligible for entry. Select which issue you wish to enter and send three copies to H. J. Johnson, 1614 W. Adams, Chicago 12, Ill. Deadline is June 22, 1950.



RANA PALUSTRIS

Harry R. Reich



YOUNG BLUE JAY

Lawrence D. Hiett

(A sample scoring sheet may be obtained from the same address.)

There is no entry fee.

Among the Clubs

Green Briar CC's *Honorable Mention* describes a small print competition which might be a good method to encourage some of your newer members to work up to your major competition. The most valuable feature of the competition is the written analysis of each print submitted. Prints are 5x7 or 8x10 on 11x14 mountings. They are turned in at a special meeting, unidentified except by a code number, and judged independently and privately by each of five judges, using 1 to 10 points for scoring. The prints are returned the following month, along with the written comments.

Town Hall CC's *Town Crier* announces merger of Town Hall CC and Germantown Photographic Society, using the latter's name. *Town Crier*, special award winner in last season's club bulletin competition, will continue under same editor.

From Sierra's *Gammagray*: "The color competition on 'Shadows' proved that we must be more explicit about our assignments." Most clubs sooner or later find it necessary to add about a paragraph of "definition" to each subject assigned for print or slide competition.

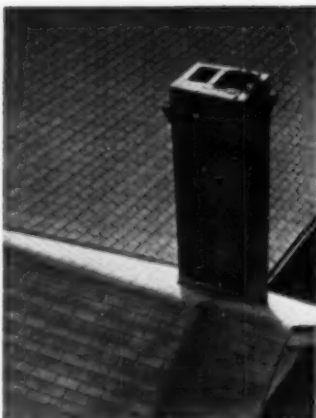
Says the editor of Cameraderie's *Panorama*: "Just picture a home with four girls, three with mumps and the fourth with a toothache. Yep, that's us!"

Motor City's *Bromide Bugle* was well illustrated last issue, with two contact prints fastened in.

Central Ohio Council's *News* explains that reason for the rule that "only prints criticised in club competitions can be entered in council competition" is to promote competitions in clubs.

Westminster CC's *Reflector* reports their satisfaction with the light box they recently constructed. Illustrates also the value of exchanging bulletins with other clubs because it was in such an exchange that the officers picked up missing details of the viewing box.

The Detroit Photographic Guild's *Bulletin* lists a series of "pre-meeting" sessions for specialized instruction and demonstra-



KODOTOP

John Kragel

tions. Sounds like a good way for the serious new member of a club to obtain extra help.

California CC's *Viewfinder* reports an outing which was a record. It was the Bay Area Council's trip to Placerville, Carson City, and Virginia City. Two day trip by bus, with 500 photographers!

New York Color Slide Club's *Rainbow* describes their "instruction committee." This committee gather in one section of the meeting room a half hour before meeting time and members during that time bring their problems, prints, or slides for advice, answers, or criticism.

Hawthorne CC's bulletin reports that membership now exceeds 1,500. Second largest camera club in the world (Kodak CC, Rochester, is first).

El Camino's *News*, in its calendar of color shows, lists only those which "meet requirements for recognition." We believe this is good policy because it helps members avoid sending slides to second rate shows.

Twin City's *Viewfinder* reported an event rare in camera club meetings: a S. R. O.

program. What was the program? It was "color night with an illustrated talk on Alaska, a color slide competition, and projection of the prize winners in *The Camera's* anniversary color competition."

Writes E. C. Wilson in *Light and Shade* (Pictorial Photographers of America): "For a number of years the critics have been blasting the salons. They say that everyone knows they are dead except the judges and exhibitors. How about these critics getting together and putting on a show of their own to give us an impression of what constitutes good photography? If these experts would show us some of their pictures once in awhile I'm sure I would have more respect for their opinions."

Cream City Color CC's *Chitchat* reports a scheme for awarding points not only for prints in competition but also for various club services and club support, such as articles written for their bulletin, pictures published, points scored in outside club competitions, etc. Such a scheme may encourage club support on a broader basis. Maybe it's worth an experiment in your club.

International Club Print Competition

Cumulation club standings for the top third of each class in this competition were as follows:

Class A: Channel City, 246; Silhouette, 245; Detroit Photo. Guild, 224; Queen City Pictorialists, 216; Grosje Pointe, 215; St. Louis, 211; Buffalo Science Museum, 210.

Class B: Club Fotografico de Cuba, 233; Tulsa, 213; Oakland, 211; Jackson Park, 210; China Photographic Club, 188; Blackhawk, 185; Phoenix, 185; Sierra, 181; Seven Hills, 179; Lawson, 179; Shorewood, 175; Spokane, 175; Albany, 170; Delta, 169; Utica, 168; Independence, 163; Bartlesville, 162; Bloomington, Ind., 158; The F & B Club, 158; Akron-Portage, 157; Stillwater, 156; Motor City, 155; Orleans, 152.

Individual winners in the last contest were: Gold medals to Boris Dobro (Channel City) and Bert Landfried (Independence); silver medals to LaVerne Bovair (Detroit Guild), John Kragel (Berkeley), Thos. B. Reed (Providence Engineering), Ward Tramm (Spokane).



BEFORE RACE

Boris Dobro



PENDANT SPIRAL

LaVerne Bovair



DOUBLE EXPOSURE

Bert Landfried

ORGANIZATION

PICTORIAL DIVISION

William E. Chase, APSA, *Chairman*
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Ray Mess, APSA, *Vice-Chairman*
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AMERICAN PORTFOLIOS

Eldridge R. Christhill, Hon. PSA, *Director*
Suite 406, 800 Davis St., Evanston, Ill.

INTERNATIONAL EXHIBITS

Dr. Glenn Adams, *Director*
9 East Third Street, Cincinnati 2, Ohio

SALON PRACTICES

Ralph L. Mahon, APSA, *Director*
260 Forest Avenue, Elmhurst, Illinois

PORTRAIT FOLIOS AND CRITICISM

Paul J. Wolfe, *Director*
124 East Jefferson St., Butler, Pennsylvania

PORTFOLIO CAMERA CLUBS

Sten T. Anderson, APSA, *Director*
3247 Q Street, Lincoln 3, Nebraska

CAMERA CLUB PRINT CIRCUITS

William R. Hutchinson, *Director*
Box 367, Newburgh, New York

AMERICAN EXHIBITS

Fred Fix, *Director*
5956 N. Sheridan Rd., Chicago 40, Ill.

CC JUDGING SERVICE

W. Dovel Le Sage, *Director*
301 Tenth Avenue, Huntington 1, W. Va.

SMALL PRINT PROGRAM

R. Hamlin Petty, Sr., *Director*
7 South Dearborn St., Chicago 3, Ill.

AWARD OF MERIT

Warren W. Lewis, *Director*
2055 North Sedgewick St., Chicago 14, Ill.

ART

Doris Martha Weber, APSA, *Director*
2024 East 86th St., Cleveland 6, Ohio

MEMBERSHIP

H. Jack Jones, *Director*
P. O. Box 220, Montgomery 1, Alabama

ORGANIZATION

John R. Hogan, FPSA, *Director*
1528 Walnut Street, Philadelphia 2, Pa.

PSA JOURNAL, Vol. 16, June 1950

It is with deep regret that we report the resignation of W. Dovel LeSage as Editor of *The Folio*, necessitated by business pressure of a conflicting time schedule. However, Dovel will continue to be very active and busy in work in behalf of PSA as he will represent the Pictorial Division in securing material for the JOURNAL, and will edit the Pictorial Supplements. Our very best wishes for his continuing success in these other endeavors.

I am stepping into the position of Editor, for the next few months, in addition to continuing to serve as Associate Editor of the "Camera Club Activities" department. Although I am a recent addition to the editorial staff of *The Folio*, I have served as Editor of the Central Ohio CC Council's "News Letter" for the past five years.

In spite of the fact that mine is an interim assignment, I certainly do not want the interim to be marked by any deterioration of quality of *The Folio*. The labors, hopes and dreams of too many people have gone into it. Rather I hope the interim will be marked by a continuing realization of the dreams of my predecessors, and the accomplishment of a few of the things I have felt possible.

These pages are important only insofar as those affiliated with the Pictorial Division read them—and even more important—use them. For unless *The Folio* belongs truly to all the Pictorial Division's approximately 4,000 members, it cannot be said to have succeeded. *The Folio* belongs to each of you—as Editor, I am simply the organizer of the news you provide.

The Real Reason

This is the time of year when the "summer photographers" dust off their cameras and join us "year-round photographers" in the pursuit of our hobby.

Wherever you are—on field trips, in vacation spots, or in other places where there are cameras—encourage and help all of the camera carriers you can.

Not only will it give you a warm feeling to help a fellow hobbyist, but remember that even the beginner can have a trick or two which might help you take better pictures. For pictures are not primarily the result of expensive or extensive equipment—the best pictures are conceived in the mind and the heart of the photographer and transmitted to a beauty-hungry world through the medium of a camera and a bit of sensitized material.

Never envy the man with the expensive equipment—he may have a soul barren of creative ideas—while the possessor of the most elementary equipment may have the fire of creative genius in his being. Your help and encouragement may start a future Steiglitz or Ansel Adams on the road to immortality.

Share your knowledge, for in sharing each one gains in skill. And each one gains in friendship—and isn't that the real reason we all love photography and photographic groups?—STELLA JENKS, *Acting Editor*



DR. WILLIAM F. SMALL, *Associate Editor*

It is with a bit of fear and trepidation that I take over the duties of assembling data for the International Portfolio news. We will follow along present lines. If you have any suggestions for improvement, we will try to incorporate them in future issues. As the program now stands, the Secretaries of the different portfolios will send me material, and I'll line it up and forward it to the Editor.

So this, my introduction to *Folio* work, is to ask for your help. Send me all the news you can as often as you can. Burton Holley has started me off well and Edith Royky has sent some interesting material. But all you secretaries—send me news.

PSA Medical Portfolio

The First Anglo-American Medical Portfolio has completed its first circuit. This folio is rather unique in that a medical photograph tells a different story than does a pictorial. The medical photograph must produce an honest representation of the problem at hand. Composition, modeling, illumination are controlled by what the end product should show. One cannot, for example, glamorize a section of lung tissue. The job is to show such detail which will illustrate the disease. So it is quite obvious that the photographer cannot "go modern." A cartoon was published some time ago, showing the interior of an artist's studio. On the easel was one of those surrealistic, disconnected conglomerations. The artist was standing to the side while a visitor was viewing his abstract effort. Below the cartoon was this inscription, "My Gosh! You've got the eye on the wrong leg." It is quite obvious that the medical photographer could not "get away" with this kind of anatomy.

All this leads up to the fact that the medical photographer is not attempting to create pictorial prints. All the factors which contribute toward a good medical photo-

graph are considered before the picture is taken. It is quite frequently the case that what appears to be an ordinary photograph is an excellent effort because of the difficulties encountered in producing it.

Most medical photographs are not retouched, for the evidence presented is more convincing when the photographs are untouched. This usually poses a problem and involves study and meticulous preparation of the subject to be photographed. Some of the comments show the problems faced and solved by members of this portfolio in England.

C. E. Engel comments: "It would be very interesting for us in this country to hear a little more about your apparatus and working conditions. Mr. Massopust has included his paper on infra-red photography as a potential diagnostic aid. This has been of particular interest to us here, since we deal with a great number of cases of in-operable carcinoma." . . . Norman K. Harrison expresses the belief that progress in this profession is only possible by the fullest cooperation between medical photographers everywhere. . . . Robert J. Whitley states that the range of work portrayed, the various mediums used, even the variance in quality of our work was fascinating, while Miss Daphne Marshall hopes that all of the portfolio members gain useful information and fresh ideas on the many and varied problems. She suggests that in order to gain something from the portfolio, each member should choose entries which are examples of pet techniques which may help the others, together with more description of the techniques, lighting and other details.

The British comments should stimulate us to greater effort toward improvement. Miss Marshall's suggestion is an excellent one. We do not believe that in a medical folio we should select our best shot. Why not select one that involved some special technique? We would all like to know about it.

From some of the American members come these comments: E. M. Stevenson writes, "It has been a pleasure seeing these prints, particularly knowing something about the contributors. This will bring together those with interests in common."

H. Lou Gibson likes the constructive and professional aspects of the portfolio, but also the almost personal contact that it provides. He is amazed at the microtone sharp detail very often seen in the English medical photographic records. . . . E. Throop Geer, Jr. thinks we used the standards for judging pictorial too much. He states, "Clinical photographs need be no more than records, and as records these are excellent." He also asks, "What would you think of exchanging a round of pictorial prints?"

This is the story of the First Anglo-American Medical Portfolio. Many medical photographs are only records, yet we believe that they can be composed, illuminated and posed in an artistic manner. The medical photographer should also have some control of the preparation of material to be photographed. Very often he can make suggestions relative to the fixation of a

specimen which would enhance the end result.

Swedish-American Portfolios

The Swedish-American portfolio is now entering its third year of successful operation, and consists of two full circles.

It is noteworthy that there are quite a few professional portrait photographers among the Swedish members as contrasted with all amateurs in the two U. S. circles. As a result, we see probably more than an average number of portraits from Sweden—excellent ones, though!

The Swedish members, in general, do not go in much for toning and according to their comments are inclined to feel that we here in America have a predilection for toning our prints that sometimes results in effects that are not entirely appropriate or convincing. They note, particularly, that we tend to do too much blue toning. This latter is probably not an unjust criticism.

Several of the Swedish members, in commenting on our prints, express the opinion that we apparently strive for a great deal of impact value through vigorous tonal treatment—poster effects, so to speak—in our presentation. In this connection, it is to be observed that the Swedish prints, especially landscapes, are characterized by a certain softness in tonal gradations, with middle tones predominating. Few of the foreign prints show any considerable areas of blacks. This gives a certain feeling of restfulness and repose to Swedish landscapes that imparts an agreeable reaction to the viewer. Because of the geographical conditions that prevail in Sweden, particularly in the larger cities, we see more seascapes than landscapes from the Swedish photographers. This is to be expected—and in general, these seascapes have been very fine.

One class of photographs that has been conspicuous by its absence from Scandinavia, is "still-lives." And some few com-

ments by Swedish portfolio members on American still-lives would lead one to infer that the Swedish pictorialists do not consider still-lives an adequately satisfying outlet for pictorial expression; but possibly more an avenue of exercise in technique. Thus, the Swedes haven't appeared to have been particularly impressed with our still-life offerings to date. From the standpoint of general acceptance, portraits seem inclined to get the nod.

Another element that has been particularly noticeable and possibly just a little annoying to some of the U. S. members is the apparent reluctance on the part of the Swedes to comment freely and in any volume on our prints. We, here in the U. S., don't have these inhibitions and as a rule have no hesitancy in tearing into the other fellow's print and telling him just what we think. Likewise, we invite the same kind of reaction from the other fellow to our own efforts. The Swedish photographer displays much more reticence than we do in this respect.

These observations in regard to differences of opinion are certainly not intended to indicate that there are any sharp differences of feeling between us. Rather they have been a source of interest and stimulation to members of both countries. It can certainly be said of the Swedish and U. S. members that in respect to our common objectives—"vi kommer väl över ens" and we look forward with undiminished enthusiasm to an indefinite continuation of print exchange between the two countries.

RAGNAR HEDENVALL, APSA

Niharika, India, Salon

The catalog from the Niharika Salon has been received and it is noted with pleasure that many PSA members had prints hung and that two were especially honored with Silver Plaques: Mrs. Grace Ballantine, APSA, received the "Mr. H. K. Adhyar Award" and Miss Eleanor Parke Custis, FPSA, the "Mr. U. S. Dalal's Award."

D. C. Engineer, APSA, the Secretary, in his exhibition report, writes:

While presenting this catalog to you, on the occasion of the First International Pictorial Photographic Exhibition at Ahmedabad, Niharika, the Club of Gujarati Pictorialists, are hereby creating a unique landmark in the history of photographic art of Gujarat in general and of Ahmedabad in particular.

The organization of this exhibition was not without some hitches. The permit for import and re-export of foreign entries was temporary and a few packets are still remaining with the customs department as they could not be released before the closing date of receiving the entries and hence could not be considered by the jury of selection.

One hundred ninety-two entrants from 17 countries were kind enough to send 705 pictures, out of which 189 pictures from 20 different countries by 111 entrants were accepted by the judges' panel.

Last, but not least, I feel it my duty to express here our heartiest thanks to all the entrants who cooperated and encouraged us by sending their valued entries, particularly to the photographic clubs and groups for sending their collective lots, and to all those whose enthusiastic cooperation has made this exhibition the success it merited. I earnestly solicit their similar cooperation in the future.

Twenty-one U. S. exhibitors had 42 prints accepted, and all exhibitors were members of PSA.

PSA International Portfolios

There are openings in the following PSA International Portfolios for Pictorial Division members who are interested in interchanging prints for comment and analysis with the leading photographers in foreign countries:

Anglo-American
Canadian-American
India-American
Australasian-American
Cuban-American
French-American
Swedish-American
South African-American
Egyptian-American
Belgian-American
Chinese-American
Netherlands-American
Dominican-American
International Medical Portfolios
Costa Rican-American
Caribbean-American
International Control Process Portfolios

For information, write to the Director of PSA International Portfolios, Miss Jane J. Shaffer, 5466 Clemens, St. Louis, Missouri.

Our Northern Neighbors

Bennie Weber, General Secretary of the Canadian-American Portfolios, writes that Circle No. 1 is about to make its trip back and forth across the border. Circles No. 2 and No. 3 have started their rounds, and Circle No. 4 is making its trip across this country now.

Oliver Smith in Canada is working on Circle No. 5 and wants to get it started early in September. He is hoping to make Circle No. 5 for advanced amateurs—sort of a "Star Portfolio" type between the two countries. So if any advanced workers want to participate, get in touch with Conrad Emanuelson, 6738 North Rockwell Street, Chicago 45, Illinois. Canadian members wishing to join, write to Oliver W. R. Smith, 202 Wanless Avenue, Toronto 12, Canada.

Incidentally, Rennie Weber's new address is 1280 Main Street, Buffalo, New York.

German-American Folio

The PSA International Portfolios are offered another opportunity to further good will between nations as well as friendships between photographers, which are the avowed purposes of the International Portfolios. As those who are a part of the portfolios already formed and circulating will agree, this is one of the most enjoyable activities in which we can take part. What we enjoy most about the portfolios is what foreign photographers are looking for.

At present contacts are incomplete, but it is the hope of the PSA International Portfolio Director that arrangements can and will be made for a portfolio exchange with Germany. As you can judge from the following letter, the competition, friendly though it be, will be stiff, for how many in PSA could meet the requirements of their Society? The prints in their catalog, which they enclosed, attest to the success of their requirements and their high caliber of work.

We are sending you enclosed a catalogue of our first exhibition held after the war, and we would be pleased if our former friendly relations could again be resumed with mutual understanding. We wish to exchange, on a basis of peaceful competition, the best photographic works exhibited and to get in touch with photographic organizations or circles, whose aims are the same as those of our Society of German Photographers, which is the parent organization of the best German photographers. The Society of German Photographers tries to attain outstanding achievements in all lines of professional photography.

Membership depends on the favorable judgment handed down by the committee of judges. Each year members have to submit at least five new examples of their work for the conventions, otherwise a member automatically forfeits his membership. A member also loses his membership if his or her work has been rejected twice as unsatisfactory.

The exhibition was shown in 1949 at Cologne for the first time, subsequently at Augsburg, and it will open January 21 in Hamburg. Another exhibit will then be held at Stuttgart, and after that it will most likely be transferred to Milan, in response to an invitation received from the "Circolo Fotografico Milanese" (Milan Photographic Society). In order to be able to maintain contact with outstanding foreign photographers including those of your country, and to exchange ideas, we would appreciate it if you would help in providing us with the addresses of your best art-photographic circles, and of your best photographers. Also let us have copies of your publica-

tions, for we also want to get to know the outstanding literary works of your country, for which we have the highest respect.

Photography, especially, was always an element that united nations, and it always maintained friendly relations at international exhibits in a spirit of mutual respect.

GESELLSCHAFT DEUTSCHER LICHTBILDERNER, E. V.
(SOCIETY OF GERMAN PHOTOGRAPHERS)

There are other portfolio circles, already organized, that have room for additional members. If you are a member of PSA and the Pictorial Division, and doing work of salon caliber, why not join one of these portfolios and get additional fun from your photography? If the above participation requirements do not fit you at present, why not check up on yourself and join the fun. If you would be interested in a German Portfolio or in any other, send your name, address and a short statement about yourself to Jane Shaffer, APSA, Director, PSA International Portfolios, 5466 Clemens Avenue, St. Louis 12, Missouri.

News From "Down Under"

Edith M. Royky, Secretary, writes, "If all the International Portfolios were as slow as Australia-New Zealand-American, I'm afraid that *The Folio* would be hard up for news. It is through no fault of the American members, though, but from the New Zealand angle. Jane Shaffer and I have been having some correspondence about it, and we hope to get some action. We have to have portfolios coming through, as it is through the notebook that we get our news."

J. W. Chapman Taylor, Wellington, N. Z., member of Circle No. 1, writes: "In this little country so remote from the rest of the world, we feel the need of more contact with the older centers of human culture; though this is growing and such a portfolio as we have here is an excellent medium. When your boys were here during the war, some of them came along to our Wellington Camera Club and we found that we had much in common with them, for we in New Zealand have the New World outlook through our colonial background."

J. G. Johnstons, Dunedin, N. Z., comments as follows: "I have read somewhere that the photograph (salon print) succeeds in proportion as it eliminates any suggestion of Time or Place. Perhaps that is why Mr. Watson's 'Boats,' Mrs. Robinson's 'Gulls,' Mr. Ohm's 'Sands,' Mr. Carpenter's 'Bush Scene' and Mr. Prussman's 'Power Lines' are all quite familiar and could have appeared at Dunedin Photographic Society's annual exhibition without causing consternation! We are all aiming at this elimination of place and date lines so carefully that we are overdoing it, and our pictures are becoming trite. I give you in opposition to these, Mr. Holley's 'Valley' which could happen anywhere, but which wouldn't; Miss Royky's 'Horseman'; Mrs. Robson's 'Homestead' and Mr. Reed's 'Chicago Winter'—all of which do contain a place mark and are indisputably stamped 'Made in U.S.A.' and all gain interest for this reason!"

"Generalizations are crazy anyway. If you judged New Zealand by mine, you

would conclude that we lived in eternal sunshine on the waterfront. Another thing that astonishes me is the terrific activity of some of you. The number of things that you do in a lifetime, the number of organizations you belong to, the letters you collect behind your names, your constant salon-breaking capacity—beats me how you find time to do a portfolio print once a year!"

Circle No. 3 is nearly completed here in the States and Miss Dorothy Kilmer, of Gloversville, New York, has been appointed Circle Secretary. This is to be an "All Portrait" and we have some of America's finest portraitists in this circle.



DR. C. F. COCHRAN, Associate Editor

THE CENTIPEDE

A centipede was happy quite
Until a frog in fun
Said, "Pray, which leg comes after which?"
This raised her mind to such a pitch,
She lay distracted in the ditch
Considering how to run.

The above well known nonsense verse is attributed to an unknown Oxford student. True to the old saying that many a truth is spoken in jest, this points a lesson in life, and incidentally, in photography.

Now please understand, before I launch into my sermon, that I have no intention of ridiculing good sound rules which have proved to be a help in creating a picture, but rather to assign to these rules an importance they deserve and place the emphasis where it belongs, on results. My thesis is a simple one. It has long been my belief that the rules of composition and esthetics are simply guides in a general direction and not a hard and well defined pathway which brooks no deviation.

Perhaps you will remember the first time you picked up a book or magazine article on Composition. Unless you were prepared in some way, such advice on this subject as finds its way into print can be very confusing. The typical history of a photographer's encounter with the "rules" might run something like this. . . Our subject has been producing pretty fair pictures but feels the need for improvement. So he studies upon the rules, takes a course, or hears a lecture. Then he goes out to make bigger and better pictures. And what happens? He lays exhausted in the ditch of indecision and, sometimes, confusion. After a time, and this part was omitted from the verse, he recovers and is again

AN INVITATION

This is an invitation to every PSA member to participate in the PSA American Portfolios.

Enrollments are now being received in the following specialized groups:

PSA Pictorial Portfolio
PSA Portrait Portfolio
PSA Miniature Portfolios
PSA Control Process Portfolio
PSA Star Exhibitor Portfolio
(For PSA Award of Merit Winners)
PSA Nature Portfolio
PSA Photo-Journalism Portfolio

For information concerning any of the foregoing activities and for enrollment blanks, write to the Director of the PSA American Portfolios, Eldridge R. Christliff, Hon. PSA, APSA, Suite 406, 800 Davis Street, Evanston, Illinois.

able to run and perhaps even run better than before.

The important point to be remembered is that recovery does come and with it, as likely as not, improvement. Important, too, is the fact that as long as the rule is studied and applied as a rule, it results in more or less confusion.

There are many who make excellent pictures with all of the rules nicely fitted into the process, but there are also many others who do not even know the rules, or have forgotten them, and they still make excellent pictures, some of which comply with the set standard of rule and some of which directly and obviously violate them.

Rules of any sort are but tools; be they rules of composition, of technique, of mounting, or whatever. A tool is useful only when it facilitates a successful conclusion. Also in many cases a tool defeats its purpose when it is apparent that it was used. Forced compliance with a rule can result in stiffness and artificiality which prevents the freedom and ease which a picture, or at least most pictures, must have.

The danger of the machine age is that man will be dominated by the machine. As long as a machine or a device, in our case the tool of the rules, is used and dominated by the individual, the dignity of the individual and the quality of his work is maintained. Just as soon as the machine or device becomes the boss, the situation is no longer desirable. It is well to know the rules. Learn them and use them when they suit your purpose, but do not let them bully you.

Portfolio Experiences

There is an old saying, "A chain is only as strong as its weakest link." This is especially true of portfolios for we have just passed through a period of disrupted schedules due to member negligence in some of the circles. Thus it was refreshing to pick up a letter from Victor Shimanski, of La Crosse, Wisconsin, and read in part as follows:

Since Folio No. 66 is my first experience with the portfolios, I particularly appreciate the warm and friendly welcome you and Chet Kelly gave me. I feel that I am in with an exceptionally fine group and I feel that this association will teach me a great deal. The sincere and complete analysis that Spee Wright made of my first print is the finest thing that has happened to me. You see I am in a small town and we just have no one to check our pictures and give us good, concise, constructive criticism.

The experience of Victor Shimanski can be your experience as a member of the PSA American Portfolios. If you have not yet joined, why not send in your enrollment today. You will be assigned to a circle with little or no delay after the receipt of your print. If you are already a member of one circle why not come in on additional circles thereby having portfolios arrive at more frequent intervals. When you belong to only one—or even two—groups it seems like a long time between rounds. The Pictorial Division has provided this activity for your benefit, for your progress, and for your enjoyment. Why not avail yourself of it?

E. R. CHRISTLIFF, Hon. PSA, APSA

Have an Exhibit

The most important exhibition of photography in the world is one in which you have a part in the planning and work, or even one in which you have a picture. Why not have your own salon?

No need to go out and organize a big international. We all make pictures, we say, for our own benefit and to please ourselves, but it is gratifying to have someone else tell us how good we are. I am sure that most photographers are less than a shrinking violet when it comes to showing their work to a possible audience, even if that audience is only the artist's own family.

A good picture needs a good audience. There are those who claim that no picture is good until it is enjoyed by at least one person other than the maker. So show them off! Have an exhibit!

Here is a way. If you have enough prints to make a one-man show you can do it all by yourself. If you are a little shy or do not have enough "good" ones, call in your fellow photographers, your camera club, or perhaps some of your portfolio friends. Get a stack of prints together all nicely mounted and prepared for hanging, perhaps even framed. There is little need for a jury. Next to selecting the best, the job of a jury is to eliminate numbers so that an exhibit will not be too large. You have control over the number of prints, if control is needed. Besides if the selection is left up to the maker, he will probably select his best work.

The next job is to find a place to hang the show. It is one thing to approach someone with wall space and offer "an exhibit of photographs" and another thing to offer "this exhibit of photographs." In the first case you are offering something vague, something which does not yet exist. But if you have a stack of prints to show, in short the exhibit itself, your prospective exhibitor can see what he will get. It is much easier to "sell" a show if you have

a show than it is to sell the promise of one.

But who is your prospective exhibitor? Literally, this can be anyone who has wall space which can be seen by people. One group in Chicago has hung exhibits in a tavern, a theater lobby, a self-service laundry, two schools, a barber shop, and—of all places—an art gallery! Any place with wall space where the public will see pictures is a place to hang pictures. You too can be an exhibition promoter. Think it over.

Miniature Folio

There was considerable thought and discussion prior to the beginning of our search for commentators on the PSA Miniature Portfolios. While a number of excellent workers occasionally employ the miniature camera for pictures which become successful salon prints, they more frequently use the seemingly easier larger negative. We felt that it would be best to obtain the services of someone who had achieved an outstanding record using small negatives exclusively.

We are pleased to announce that we have secured not one, but two to fill the bill. Arthur Mawhinney, FPSA, and Katherine Mawhinney, New Rochelle, N. Y., have accepted the posts of Co-Commentators on PSA Miniature Portfolio, Circle No. 1.

Mr. and Mrs. Mawhinney together with their son, who is also a photographer of note, have worked with miniature film for years. They always use Leicas, the same developer, the same papers, and the same methods. In this way any one of them can pick up a job where the other left off.

Their success has proven what we have always believed to be true, that 95 per cent of the pictures hung in salons could have been made with 35mm cameras. While 35mm cameras with interchangeable lenses have as wide if not wider scope in picture making than any other class of camera, they too, like the reflex, the view camera, etc., have their limitations. We feel that the Mawhinneys know the miniature's real rather than fancied limitations and possibilities and that their comments will be invaluable to the members of Circle No. 1.

EDWARD E. CROSBY, Director PSA
Miniature Portfolios

Portfolio Medal Award

Pictorial Portfolio No. 46 produces the winner of the PSA Portfolio Medal Award this time. Our congratulations to F. C. Allen of Oak Ridge, Tenn., for his winning print, "Glass."

Mr. Allen's print had travelled in Portfolio No. 46 and was remade and submitted to the Washington, D. C. First International Salon where it was accepted and hung. In sending us the data on his print Mr. Allen has written:

There isn't too much of a story behind this print. It was originally made for a camera club competition on Glass. The first shot had only two cases, the two on the left. It won first place in the camera club and then I sent it out on circuit No. 2 of Pictorial Portfolio No. 46. Our com-

mentator, Leon Craig Forgie, and other members of the group suggested the third vase so I took a couple more shots following the suggestions. It was then accepted in Washington and later in Asheville, N. C.

The houses in Oak Ridge are not designed with the idea of a photographic studio in mind, so there wasn't too much room to set up a still life shot. My picture was taken on a piece of 16x20 glass laid across the seats of two chairs. A piece of blue tracing cloth was placed across the chairs and over the glass and the whole thing set in front of the fireplace. A No. 2 flood was placed in the fireplace and a No. 1 flood on the floor under the glass. Exposure was by meter on Eastman Plus X film developed in Microdol. The print was on Opal G developed in Dektol and toned with Eastman Blue Toner. That's all there is to it.

However, I would like to express my thanks to Mr. Forgie and the other members of Circle No. 46. It was because of their interest that I remade the picture and entered it in a salon. Since then I have had six more acceptances of "Glass" in other salons and I hope to have many more later.

PSA PICTORIAL PORTFOLIO No. 16 (Revised)

Victor H. Scales, Hon. PSA, Commentator, New York, N. Y.

J. W. Fox, Sioux Falls, South Dakota

George L. Kinkade, APSA, Auburn, Washington

Harold Carpenter, Sandy, Utah

Lester R. Wilkinson, Galesburg, Ill.

Mrs. Andree Robinson, Milwaukee, Wis.

Wilson R. Browne, Lancaster, Penna.

J. Joseph de Courcelle, Wilmington, Del.

Willard Hults, Millburn, N. J.

Alfred A. Wales, Providence, R. I.

Charles W. Wright, Buffalo, N. Y.

Mrs. Evelyn L. Kenney, Cambridge, Mass.

James Hinson, Waterloo, Iowa

Clifton L. Hagenbuch, Jr., Midway City, Calif.

PSA PICTORIAL PORTFOLIO No. 18 (Revised)

Mrs. Mildred Batry, APSA, Commentator, New York, N. Y.

Ray F. Schwehn, Secretary, Chicago, Ill.

Dr. W. Warren Roepke, Owatonna, Minn.

C. L. Deming, Sioux Falls, S. D.

Walter R. Vittum, Des Moines, Iowa

Wyatt A. Butler, Atchison, Kansas

G. F. McClelland, Lubbock, Texas

Edward Probert, Tulsa, Okla.

I. C. Slomberger, Peoria, Ill.

Allen R. Poulin, Utica, Michigan

Belle McMullen, Lansing, Mich.

Doris Martha Weber, APSA, Cleveland, Ohio

Dr. George N. Ahelman, Brooklyn, Mass.

Thomas B. Reed, Apponaug, R. I.

Tracy Mann, St. Albans, L. I., N. Y.

Dr. F. L. Robinson, Richmond, Va.



MISS STELLA JENKS, Associate Editor

There is no doubt that Camera Club Print Circuits can furnish a very interesting program for any camera club. Attending a meeting of one of the participating clubs, the Texaco CC of Beacon, New York, gave the Director an opportunity to see the results at first hand. The club's program committee followed the operating instructions supplied with the circuit, and it proved to be a most instructive and smooth running program. After the members had their say on the prints, they compared notes with the Commentator and the club

ahead of them in the circuit. Needless to say, they disagreed here and there. From the reaction of the club members at the end of the program, the club will be participating in many more club circuits.

There were a total of 27 prints from nine different clubs in Circuit 50A. Participating clubs, most of which are first timers in the circuits, are:

Newburgh Camera Club, Newburgh, New York
Tuscon Camera Club, Beacon, New York
Orange Camera Club, East Orange, New Jersey
Lockport Camera Club, Lockport, New York
Fort Jenkins Camera Club, West Pittston, Penna.
Shenango Valley Photographic Society, Sharon, Penna.
Morgantown Camera Club, Morgantown, West Virginia
Cynthiana Camera Club, Cynthiana, Kentucky
Shell Oil Camera Club, Houston, Texas
Commentator: Dr. William F. Small

It is important that clubs participating in this activity send their prints mounted on 16x20 mounts. The print looks better and easier to handle in the light box. Only three prints from each club go into a circuit.

One club called attention to lack of technical data. All club members like to have this information. This, together with the name of the club and the maker, should appear on the back of the mount.

Another club called attention to the subject of constructive criticism. Camera Club Print Circuits will provide a good evening's program and enough time should be given to viewing the prints so that each member can make his comments, good or bad. Suggestions for the improvement of a picture should also be included. If handled in this way, clubs will find this to be a most instructive program. Recently, a notebook has been included in which all comment sheets are to be inserted.

After all clubs in the circuit have commented on the prints, the circuit is dissolved and the prints and comment sheets are returned to the clubs.

Circuits are being formed continuously, and as soon as enough clubs are secured in different sections of the country, a new circuit is started on its way. Service charge to cover costs of each circuit is \$1.00, and a club may belong to more than one circuit if desired.

Complete information about Camera Club Print Circuits may be obtained from William R. Hutchinson, Director, Box 367, Newburgh, New York.

Star Exhibitors Show

Active "Star" exhibitors (two stars or more) have been invited to submit two of their currently successful prints to Fred Fix, 5956 North Sheridan Road, Chicago 40, Illinois, for possible inclusion in the 1950 Star Exhibitor Show. This show will be turned over to the Photographers' Association of America (the professional group) in August for exhibit at their annual convention in Chicago. Likewise, the PAA will turn over their Masters Exhibit to PSA for exhibition at our convention in Baltimore and for subsequent review by PSA clubs and councils as one of the American Exhibits.



"GLASS"

F. C. Allen

If you are a "Two Star" exhibitor, or better, this will remind you to send two of your successful prints to Mr. Fix as soon as possible. The deadline for their receipt is July 31, 1950. If you submitted prints for last year's exchange to R. L. Mahon, APSA, Director, American Exhibits, they will be returned in July or August 1950, as promised.

The rules for the exchange of prints between the PSA Pictorial Division and the Photographers' Association of America are:

1. Prints shall not exceed 16x20 inches.
2. No restrictions on subject matter.
3. All prints will be suitably mounted for exhibition.
4. Because it is expected that the show will be limited to about 75 prints (certainly not more than 100), not more than 2 prints per maker will be accepted.
5. When on exhibition in public or semi-public places, all prints will be covered with glass or equivalent protective material.
6. Suitable stickers or certificates will be affixed to all prints exhibited or shown before organized groups or at public or semi-public institutions. Makers not desiring such attachment shall affix envelopes to the backs of their prints for such stickers or certificates.
7. Each exhibit shall be transported in a print case (hard fiberboard or leather) of suitable size to hold the entire collection and of sufficient durability to stand the normal hazards of transportation. Each print will be identified (titled, maker and his address) and listed on a list. The list will carry suitable information for the return of the case and contents.
8. The exhibits will be shipped between cities by Railway Express, insured for a minimum of \$100 per case. At all other times, the Association involved will exercise reasonable care but will not be responsible for accidental damage or loss to individual prints or to the case.
9. Each exhibit will be returned to the appropriate "other Association chairman" not later than August 1951, one year from their initial delivery. Each association will be responsible for the return of its exhibition prints to the contributing makers.
10. If mutually agreeable, negotiations for the next interchange of exhibits will be started not later than January 1951.

PSA CONVENTION

Baltimore, Md., October 18-21, 1950

News of the Pictorial Division

MISS CHARLOTTE KESSLER, Associate Editor

Salon Questionnaire

By RALPH L. MAHON, APSA

During December 1949 we sent five-page questionnaires to 32 representative salon chairmen and 45 representative exhibitors in this country, Canada, Mexico and Cuba. Those addressed were asked to give serious answers to controversial questions of policy and procedure listed in the questionnaire, the answers to be used for a revision of PSA Recommended Salon Practices. By February 1950, 16 completed questionnaires had been received from chairmen and 25 from exhibitors and follow-up cards were mailed to those who failed to respond. The replies uniformly indicated that considerable time and thought had been given to questions raised, and it appeared that a truly representative cross-section of current thinking had been secured regarding present problems affecting exhibitions.

In fairness to the men and women who filled out the questionnaires and to stimulate further ideas and interest, a general summary of one of the six sections of the questionnaire will be presented each month in *The Folio*. The various sections include (1) Finances and Entry Fees, (2) Salon Dates and Time Intervals, (3) Juries and Judging Procedure, (4) Hanging and Catalogue, (5) Salon Practices Procedures, and (6) General Comment Regarding Salons and Salon Practices. The Director will welcome your opinions on these or other matters affecting salons.

Salon Finances and Entry Fees

In answer to the question, "What procedures have you used to make up for the increased costs of holding your salon?" ten of 16 chairmen reported that they had sold more catalogue advertising, seven had held or cut expenses (printing, exhibition space, etc.) and six had accepted or solicited new or additional contributions from patrons, photo dealers and club members. Two added color slides to increase their revenues and two received grants from city or state agencies. Miscellaneous activities toward this end included increased publicity, increased club dues, the sale of top-quality prints donated by local exhibitors, the raffling of camera equipment, the sale of catalogues to local club members just prior to the salon opening and increasing the entry fee.

Eight of the 16 salon chairmen did not favor an increased entry fee and 11 thought they could continue present standards without increasing the fee, assuming that costs do not increase still further. If increased

fees are necessary, six of the salon chairmen favored \$2, two the retention of \$1, two an intermediate amount, with six out of 16 having no definite opinion at this time.

Fifteen of the 25 exhibitors, on the other hand, were aware that the \$1 entry fee does not cover the average expense of handling their entry at today's high costs. Twelve did not favor an increase, but nine thought an increase to \$2 or to some intermediate amount was justified. Thirteen exhibitors said they would not send to salons with the same frequency if all entry fees were raised and four others said they probably would not send to as many. Thirteen said they would continue to send to the larger or more important salons if fees were increased generally, and five said they would patronize those salons offering inducements to exhibitors (best date sequence, judges with proven ability, those producing good catalogues, handling prints carefully and promptly, etc.). Three thought they would enter more foreign salons and local contests if all entry fees went up. Fourteen said that the difference in fee alone would not make a substantial difference to them. If a raise must come, 13 exhibitors preferred a flat \$2 and seven an intermediate amount (five suggested \$1.50.)

Both groups agreed that, in the beginning at least, a smaller number of entries would follow any general increase in fees and that beginners would be the "hardest hit" by such a change. Both groups were also in agreement that a general increase in fees would retard the best interests of pictorial photography, although several in each group were positive that salon standards would be raised by the stiffer competition that would follow. In lieu of increased entry fees, 12 of the 16 salon chairmen said their salons were trying to get along with increased advertising, five with more local jurors and less pretentious catalogues, and four with less pretentious entry forms and the omission of entry forms to foreign countries which cannot send entry fees. Individual chairmen suggested that the cost of catalogue reproductions be charged back to the exhibitor involved, charging salon visitors a small admission charge and

a small fee for catalogues, the elimination of free dinners and entertainment in connection with judgments, the increased use of jurors from nearby cities, getting competitive bids on printing and the use of exhibition halls having little or no rental.

Twenty of 25 exhibitors, on the other hand, were content to get along with less pretentious entry forms, 15 with more local jurors, 14 promised to patronize lectures by out-of-town jurors just prior to judgments to help raise expenses, 13 agreed to accept express collect packages over four pounds and 12 thought they could get along with less pretentious catalogues. Miscellaneous suggestions from exhibitors to help finances included a \$1 entry fee and return postage, the increased publication of the best prints from salons in national photographic magazines (rather than in catalogues) and the increased sale of prints from salon walls.

Many replies offered suggestions and comments which will be helpful to salon committees when they are written into the text of the revised "Recommended Practices".

Additional questionnaires are available and will be gladly mailed upon request to those interested. The Director realizes the complexity of the present salon situation, and desires to take sufficient time in the revision process to develop procedures which will definitely solve some of our present problems. Meanwhile, he suggests that salon committees continue to follow PSA's 1945 practices as closely as possible.

Next month, these columns will carry a summarization of the questionnaire replies covering "Salon Dates and Time Intervals."

Print Analysis Service

Is the subject interesting? What about the composition? Do we have good workmanship (technique)? These are the three basic tests to be applied in analyzing a picture. In a successful print the subject matter counts for about 25 per cent and the composition and technique about 75 per cent.

In the accompanying picture the subject is interesting enough, but the composition and technique are faulty, and therefore, it fails as a pictorial presentation. The viewpoint was not carefully selected to eliminate unnecessary material, avoid line, point, and tone mergers, and other technical faults. The composition lacks unity and harmony which could have been preserved by studying the subject material and choosing the best possible position for the camera.

Perhaps you have a photograph of a subject in which you are intensely interested, but somehow or other it fails to measure up to the acceptable standards of an exhibition print. Don't give up! The Pictorial Division has made available a new personalized print analysis service. That's right! You can have a frank unprejudiced opinion of the merits of your picture together with helpful comments by a panel of nationally known exhibitors. More than that you can become eligible for an award at the PSA Convention in Baltimore, if your work shows considerable improvement in the remaking of your picture.



What's wrong in this picture?
See Print Analysis Service.

As a member of the Pictorial Division you can participate without paying any fees for the service. Just follow the few simple rules published in the April and May *Foibles* and send your prints in for analysis to J. Elwood Armstrong, APSA, 17402 Monica, Detroit 21, Mich.

Star Exhibitors

New PSA Star Exhibitors and advances in rating since the last published listing are as follows:

New 1-Star Exhibitors

Lowell Miller Rochester, N. Y.
Willard H. Carr New York City
Frances Grier New Castle, N. H.
Sewell P. Wright Springfield, Ill.

Advanced from 1-Star to 2-Star

Glenn E. Dahlby Oak Park, Ill.
Rennie I. Weber Buffalo, N. Y.
Harold L. Thompson Los Angeles, Calif.

Advanced from 2-Star to 3-Star

Dr. G. Thomas, FRPS, Bangalore, India
Sam K. Chow Seattle, Wash.
Angel de Moya, APSA, Havana, Cuba
ARPS Toronto, Canada
Kex Frost Carpinteria, Calif.
M. M. Deaderick New York City
Charles W. Manzer New York City
Helen C. Manzer, APSA New York City

New 3-Star Exhibitor

Alfred Blyth, ARPS Edmonton, Alberta, Can.

Advanced from 3-Star to 4-Star

J. Elwood Armstrong, Detroit, Mich.
APSA South Orange, N. J.
Jerome P. Krimke

Applications for Star Exhibitor Award of Merit Certificates should be addressed to Warren W. Lewis, Director of the Award of Merit, 2055 N. Sedgwick Street, Chicago 14, Ill.

PSA Portrait Portfolios

By PAUL J. WOLFE

This is the premiere of a new column having to do with portraits, portrait criticism, and our Portrait Portfolios. Many of the news items will be furnished, unwittingly, by the members of the Portrait Portfolios. It is our intention to scan each portfolio carefully and glean from each the tidbits which may prove of interest to our entire portrait family.

We have a new addition to our gallery of portfolios. Gene Rhamy, of Defiance, Ohio, suggested that we try one consisting of hand colored prints only. The response to cards sent each member were sufficient to create a new circle, No. 14, and it will soon be rolling the rails.

We owe another good idea to Gene Rhamy, of Circle No. 6. In most of our towns and cities not large enough to support a costume shop there comes periodically a theatrical company with a grand galaxy of costuming finery. When one of these shows arrives Gene latches on to one of the cast who is always willing to pose in full regalia. Result: a portrait novel, and different.

Says Hugh C. Furrum, of Dayton, Ohio, Circle No. 11, "I am 52 years old and am just getting started. Hope some day to

take a good portrait." Not all of us are such tardy starters, but we share the same ambitions.

Circle No. 6 members are in for a treat when they see the print entered by their commentator, Edgar L. Olma, APSA. Says Dr. Jess R. Baker of Ontario, "One thing that impresses me is the commentator's prints. They show *work*, especially on the enlarger—burning in here, holding back there." And it also takes a lot of years experience to do that *work* effectively.

Edgar Olma gives this excellent advice to Circle No. 6 member Earl L. Fiske: "Try to keep the mouth above the center horizontally, the nose at about the center vertically. This is a rule that can be broken, but it is a good guide. Never try to pinch the nose against the far cheek line, do not shoot up the nostrils. If sitter is wearing white use a darker ground. Use a spot on it to give a little relief and a touch of hair light from the back."

We'll have to dub Don R. Aufderheide, Indianapolis, Indiana as Chief Heap-Big Powwow for Circle No. 11. Don likes to conclude his lengthy, but interesting, notebook discourses with such phrases as, "Love, and other parlor games," or "Love, and other expensive items." Now we're on pins and needles to see with what else he can associate *love*.

Fred Calvert, of Chester, Pennsylvania, has accepted the office of Secretary for Circle No. 11. Fred's an old hand at the job, being the guiding hand for Circle No. 1.

Stop! Look! Listen! Allen D. Brothers, St. Louis and Circle No. 5 writes: "Let's keep several prints ahead so we don't have to rush through a job three days after the portfolio is received." If these sage words are followed you not only will submit better work, but will help to keep the portfolios on schedule.

Here's a thought from Morris Germain, commentator for Circle No. 5, "Buff paper," he says, "is not suitable for a young person, particularly a female. White stock would be more appropriate."

Mary Jane Matheson, Cleveland, of Circle No. 13 offered the kindest suggestion of all. When you criticize a print and no matter how poor you think it to be, do not be sarcastic. Do not assume a superior attitude but instead give all the help you can to its improvement. Never fail to remember that one day you had a first print and that in all likelihood it was worse than the other chap's first.

Pictorial Division members are welcome to join our Portrait Portfolios. Write Paul J. Wolfe, Director PSA Portrait Portfolios, 124 E. Jefferson St., Butler, Pa.

Coming Salons Agreeing to Follow PSA Recommendations

NOTE: M—monochrome, C—color prints, T—color transparencies, SS—stereo slides, L—monochrome slides, A—architectural prints, S—scientific or nature prints. Entry fee is \$1.00 in each class unless otherwise specified. Recognition: The monochrome portions of salons listed have Pictorial Division approval. Check salon list of appropriate division for recognition of other sections.

Ashville (M,T). Closes July 10. M exhibited July 31-Aug. 6; T, Aug. 1, 3 and 5. Data:

Melvin F. Cipar, Woodfin Apts. No. 55, Asheville, N. C.

Sao Paulo (M). Closes July 15. No entry forms required. Address: Foto-Cine Clube Bandeirante, Rua Avanhandava No. 316, Sao Paulo, Brazil. Melbourne (M,T). Closes July 15. Exhibited Sept. 4-16 in Victorian Artists' Society's Gallery, East Melbourne. Data: C. Stuart Tompkins, 580 Burke Road, Camberwell, Victoria, Australia.

Hartford (M,C). Closes July 18. Exhibited Aug. 5 to Sept. 10 at Wadsworth Atheneum. Data: Raymond LeBlanc, 234 S. Quaker Lane, W. Hartford, Conn.

Ill. State Fair (M) Closes July 22. Exhibited Aug. 11-20 at Exposition Bldg. Data: Geo. L. Cochran, 315 E. Monroe, Springfield, Ill.

Vancouver (M). Closes Aug. 2. Exhibited Aug. 23-Sept. 4 at Pacific Natl. Exhibition. Data: Frederick Hill, Pacific Natl. Exhibition, Vancouver, B. C., Canada.

Mysore (M). Closes Aug. 31. Exhibited Oct. 14-Nov. 5. Data: B. N. Surendra, 6 Curley St., Bangalore 1, S. India.

Paydipap (M). Closes Sept. 1. Exhibited Sept. 16-24 at Western Washington Fair. Data: Geo. L. Kinkade, 103 L Street, S.E., Auburn, Washington.

Milwaukee (M, T, SS) Closes Sept. 14. Exhibited Sept. 28-Oct. 12 at Layton Art Institute. Data: Ray Miss, 1800 N. Farwell Ave., Milwaukee 2, Wis.

PSA (M, C, T, N, S & MP) Closes Sept. 18. Prints exhibited Oct. 18-Nov. 1 at Baltimore Museum of Art. Fees, \$2.00 for prints; \$1.00 for transparencies; MP \$1.00-\$4.00 according to length. Data: Ernest C. North, 6209 Frederick Rd., Baltimore 28, Md.

Pasadena (M, T) Closes Sept. 30. Exhibited Oct. 9-28 at Bullocks, Pasadena. Data: Danny McKeever, 401 S. Lake Ave., Pasadena 5, Calif.

Victoria (M, T) Closes Oct. 5. Exhibited Nov. 5-12 at Empress Hotel. Data: Irvine Dawson, 680 Victoria Ave., Victoria, B. C., Canada.

Chicago (M). Closes Oct. 7. Exhibited Oct. 28 to Nov. 26 at Museum of Science and Industry. Data: Mrs. Loren Root, Sec'y., Room 2320, 135 S. LaSalle St., Chicago 3, Ill.

Santiago (M, T) Closes Oct. 10. Exhibited Nov. 7-Dec. 8 at Palacio de la Alhambra. Entry forms: R. L. Mahon, 260 Forest Ave., Elmhurst, Ill.

Miss. Valley (M, C, T) Closes Oct. 25. M and C exhibited Nov. 5-20 at City Art Museum, T. Nov. 6 and 13 at Museum and Nov. 1 at Calhoun Branch Library.

Other Foreign Salons

Luxemburg (M,T). Closes July 1. Exhibited Sept. 1-12 at Palais municipal a Luxembourg. Data: George Stell, Salon Sec'y., Case postale No. 174, Luxembourg.

Antwerp (M,C). Closes July 15. Exhibited Sept. 2-18 at Royal Zoological Society. Data: L. Verbeke, 435 Lackloors Ave., Deurne, Antwerp, Belgium.

Third Witwatersrand—Johannesburg in August, and then on tour. Usual regulations. Closes July 31. Camera Club of Johannesburg, P. O. Box 2285, Johannesburg, S. Africa.

Royal (M,C,T,L,SS, Record, Movies). Closes Aug. 1. Exhibited Sept. 14-Nov. 25. Data: Royal Photographic Society, 16 Princes Gate, London, S.W. 7, England. (No entry fee but return postage required.)

London (M) Closes Aug. 9. Exhibited Sept. 16-Oct. 14. Data: Sec'y., London Salon of Photography, 26 Conduit St., New Bond St., London W 1, England.

Cape of Good Hope (M). Closes Aug. 31. Exhibited Sept. 18-23 in Art Gallery. Data: Salon Secretary, P. O. Box 2431, Cape Town, S. Africa.

Paris (M,C). Closes Sept. 1. Exhibited Oct. 14 to Nov. 2. Data: La Société de Française de Photographie, 31, rue de Clichy, Paris (9^e), France.

Swedish Master Competition (M-3 prints only). Closes Sept. 1. Exhibited in October. Data: The Swedish Master Competition, Box 3221, Stockholm 3, Sweden.

New Zealand (M,T). Closes Sept. 18. Exhibited Oct. 21 to Nov. 15 at Art Gallery, Christchurch and throughout New Zealand. Data: R. J. Blackburn, P. O. Box 880, Christchurch, New Zealand.

psa

Color

By KARE A. BAUMGAERTEL, APSA
353-31st Avenue, San Francisco, Calif.

Due to the ever increasing popularity of our Inter-Club Competitions, the next series starting in October should see at least 100 clubs participating. It has become evident that it is no longer practical to judge both the A and the B group at the same time and place. Therefore, it has been decided to hold separate judgments at different places for each group. The only other alternative would have been to reduce the number of slides entered from six to four per competition per club. As this would have meant that fewer people would have had an opportunity of seeing how their slides do in national competition and that fewer individuals would have received an appraisal of their slides, it was decided that the split up between groups was the better move.

This change has other advantages. As most recent judgments have been public, audiences of up to more than 1,000 people having watched the judges at work, the separation will enable twice as many clubs to handle a judging and twice as many audiences to watch and learn. Separation will also mean that the judges will be given more time, and, although the commentary furnished on the slides upon their return has been quite satisfactory, additional time will mean an even closer analysis being given each slide. One more thing, separate judgments as well as the increase in the number of participants will make necessary an increase in the number of awards, and more people will have an opportunity of winning the highly prized medals and ribbons. Winning clubs will still receive the plaques which have also proven popular.

During the past year these competitions have been supervised by George F. Johnson, of State College, Pennsylvania. Nothing we can say would do full justice to the fine work George has done. Many of the clubs participating have commented on the very able manner in which they were handled by both George Johnson and his predecessor, Mrs. Blanche Kolarik. In line with the Color Division's policy of training its committee personnel, we are assigning even more important work to George, and the new series of competitions, starting in October, will be handled by Merle S. Ewell, 1422 W. 48th Street, Los Angeles 37, California. Merle has handled not only the judging of a number of these and other Color Division competitions but also has been and is one of the leaders of the famous El Camino Real Color Pictorialist's annual exhibition in Los Angeles. Merle has been a member of the Color Division National Committee for some time and we are sure that he will handle this assignment to the credit of both the Color Division and himself.

Exhibition Slide Sets

As the above will keep Merle Ewell quite busy without any additional activity, we are relieving him from the detail involved

in the handling of the distribution of the Exhibition Slide Sets in the area west of the Rocky Mountains. To replace Merle we have been fortunate in securing the services of Charles H. Green, 540-29th Street, Richmond, California. Charles is a leading color slide exhibitor, a lecturer of note using color slides as part of his talks, and has had a number of pictures reproduced as magazine covers. During the past year Green has handled the distribution of a traveling slide set of his own, which he has graciously loaned to camera clubs and individuals all over the country and which has been extremely well received. If you are interested in securing an Exhibition Slide Set, please contact Mr. Green at the address shown and he will send details.

It should be mentioned here that under the able supervision of George Blaha many new Exhibition Slide Sets have been made up and are now available in all three territories. If you have not had a slide set recently or if you have just become interested, contact the nearest distribution point. Besides Charles Green in the West, slide sets are distributed in the East by Charles Kinsley, 423 Colebrook Drive, Rochester 17, N. Y. and in the Midwest by A. C. Klein, 4467 N. Morris Boulevard, Milwaukee 11, Wisconsin. In addition George Blaha, 6240 S. Artesian Ave., Chicago 29, Illinois, has a special light weight set for air mail distribution to points outside of the continental United States, which can be secured from him. Write to Mr. Blaha only in connection with the special air mail set.

Nominations

Elsewhere in this issue you will find the list of nominees selected by the Color Division Nominating Committee for Division officers during the coming two years. These nominees were carefully selected for ability, experience and availability. Division officers require the qualifications of real executives and plenty of available time besides. Finding nominees who have the necessary qualifications is a difficult thing to do and such nominations are not lightly to be made. Personal friendships should never enter into the matter nor should the desire to do anyone an "honor." There are about 1,500 members in the Color Division and a great many more color workers are affiliated through member clubs. Their interests are far more important than the interests of any one individual. The Color Division Nominating Committee has done a fine job and deserves the thanks of the entire membership.

Filters

In a previous issue we mentioned a new Eastman filter known as the "Skylight" filter. Continuing tests have shown that this filter is ideal for all outdoor exposures made on daylight type Kodachrome, Ektachrome or Ansco Color where no special color correction is necessary. As very few color pictures made by other than professionals ever require special correction, the "Skylight" filter will give most of us all the correction required. By all means try it.

Coming Color Exhibitions

Dixie, July 2-16. Deadline June 15. Four slides, \$1. (Up to 4x5"). Forms: Courtland F. Luce, Jr., 517 Trust Co. of Ga. Bldg., Atlanta 3, Ga.
Hawaii, July 15-28. Deadline June 30. Forms from Fred Ishibashi, 1141 Lanikua St., Honolulu, Hawaii.
Sacramento, Aug. 31-Sept. 10. Deadline Aug. 10. Four slides, \$1. Forms from Grant Duggins, P. O. Box 2036, Sacramento 9, Calif.
PSA, Oct. 18-21. Deadline Sept. 16. Four slides, \$1. Forms from Ernest C. North, 6209 Frederick Rd., Baltimore 28, Md.
Tulsa, Oct. 15-17. Deadline Sept. 30. Four slides, \$1. Forms from Joe E. Kennedy, 1027 Kennedy Bldg., Tulsa 3, Okla.
Minneapolis, deadline Oct. 23. Four slides, \$1. Forms from Margaret Loughbridge, 4113 Cedar Ave., Minneapolis, Minn.

Photo-Journalism

By CLIFF EDOM, APSA

18 Walter Williams Hall, Columbia, Mo.

Hats off to Sag Kash, Cynthiana, Ky., for the grand job he is doing with the P-J "News Letter." To help him keep the ball rolling, let's drop him a postcard or letter today and tell him how much we appreciate his efforts. Incidentally, why not send him a morsel of news. He'd appreciate that no end. His address, the *Cynthiana Democrat*, down Kentucky way.

Alpha Chapter of Kappa Alpha Mu, the national fraternity devoted to Photo-Journalism, sponsored Ralph Gray, APSA, and his splendid pictures of Mexico recently. A godly number of Columbians and persons from nearby towns enjoyed the show which was held in the School of Journalism auditorium. Ralph was enroute from Oklahoma City and Wichita, Kansas to Springfield, Ill., and was persuaded to stop off in Columbia. He played to capacity and appreciative audiences all along the route.

Bob Garland, Program Director of the P.J. Division, Ed Farber of Stobo Research, and Hy Schwartz of Kalart, with the writer of this column attended an enthusiastic Iowa Press Photographers meeting at Cedar Rapids in April. The "four-horsemen," in addition to having speaking parts on the program, also judged the picture competition.

On the Ground Glass:

Bert Fellenbaum, Cleveland, is single and young—24 years of age. He became interested in photography while in the army and later took a course in college. Bert writes he "really enjoys" his copy of the *National Press Photographer*. Don't we all!

Marion H. Brill, Philadelphia, is a public accountant. He has, however, worked as a photo free-lancer at Penn State College (information service); he has sold to AP and to Acme. While at Penn State, he was photo editor for many student publications and during the war was a naval photographer. Although not an active free-lancer now, Mr. Brill is very much interested in the problems of the press photographer.

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P-Jer Kenneth J. Conant, Jr., Boston, is doing staff work for the Cambridge *Chronicle-Sun*. He also attends the Boston University School of Public Relations.

We envy Rosario H. Cagnon, Fall River, Mass., who is serious about his photo free-lancing. At present he is building a yacht for foreign travel to take pictures to illustrate special feature articles. The yacht will be fully equipped—darkroom and all—that Rosario may process his pictures enroute.

F. Gonzales Bueno, Oteen, N. C., has been a free-lancer fifteen years and served four years during World War II in the U. S. Navy. He is a Life and Cornerstone member of PSA. Mr. Bueno believes a cameraman "should have a thorough knowledge of his tools, and good ideas, good sense of composition, and insight into human nature, a philosophical outlook. Further, he should have a neat appearance, and be a good conversationalist." That, Mr. Bueno, is tying up a neat package.

P-Jer A. L. Buchner, Chicago, spent six years as a photographer in the U. S. Navy. In addition to studio work, he does considerable free-lancing to publications, and is also very much interested in commercial photography.

John W. Busch, Spartanburg, S. C., has been a professional photographer for 26 of his 44 years. He is regional photographer for the Soil Conservation Service, U. S. Department of Agriculture, and covers nine of the Southeastern states. During World War II Mr. Busch was a photographer with the Ninth Airforce in Europe.

J. E. Goulet, Springfield, Ill., has been chief photographer for Allis Chalmers Mfg. Co. the past five years and for 12 years has been a licensed free-lancer. Goulet enjoyed the NPP article, "Not Intimidated," which appeared in the March issue. It reminded him of the time when a big hombre—a six foot, 220 pounder "took a swing" at him. As a result of that encounter Mr. Goulet now carries a new 4 x 5 camera.

Bert V. Allen is Professor of Photography at Utah State College, Logan, and is manager of the Photo Department which trains from 75 to 100 students each quarter. His department, with over 4,000 feet of floor space, has two studios, a stock room and ten darkrooms. Professor Allen and his staff produce thousands of prints each year for publicity, catalogs, bulletins, etc. Allen has more than 750 hours of aerial photography, was a commercial photographer at Boulder Dam, and has worked with several of the nation's top-ranking cameramen. His specialties are press photography and "corrective portraiture."

Robert W. Clark, Elsie, Mich., recently sold a picture to the Detroit *Free-Press*. As an alert, small-town cameraman, he is having a lot of fun and doing pretty well as a free-lancer.



Ralph Gray, APSA, visits Columbia, Mo., on a PSA NLP Tour. L-R: Cliff Edom, APSA; Miss Cynthia Press, Stephens College; Ralph Gray and Lee Jenkins, University of Missouri. Photo by Norman Van Pelt.

Arthur C. Kahane, Brooklyn, writes he very much enjoys the NPP and the PSA JOURNAL. Mr. Kahane clicks quite regularly with his free-lance efforts in the Brooklyn area.

Leo R. Renfro, Memphis, Tenn., is our candidate for the world's busiest man. A movie projectionist at a Main street theater from 10:30 AM until 5 PM, he works from 6:30 to 11 PM, in the projection booth of a suburban house. Even though he doesn't have much time for shooting pictures, he has a raft of equipment—a Rollei Super Ikonta B, Super-D Graflex and a Speed Graphic. Gosh! What kind of equipment would the man have if he was projectionist at only one theater?

A portrait-commercial photographer who has sold many pictures for publication writes his problem "is getting a press permit for regular news work." Seldom, if ever, will a newspaper or magazine issue a press card to any person not a member of the staff. Officers of the law may provide credentials for recognized free-lance workers—especially if they have "earned their spurs" and are consistent contributors to recognized publications. Press cards or credentials may, of course, help a staff or accredited free-lance across a fire line or help him get into places where he could not go. The lack of a press card, however, should not prevent any qualified free-lancer from doing all right. Many of the top-flight news men we know do not depend upon a press card to do the job. They "cover" the event in a professional, dignified way, and seldom are called on to show their cards. Members of the Photo-Journalism Division, with members of the National Press Photographers' Assn., should oppose at every opportunity those racketeers who sell so-called press cards to unsuspecting amateurs.

Arthur E. Anderson, Box 154, Chestertown, Ind., is filled to overflowing with the desire to help the movement to preserve the last bit of dune land in his state.

He asks any P-Jer who has any suggestions as to how this cause may be publicized, to write him. The ultimate aim is to make the Indiana dunes into a national park. In addition to waging a never-ending battle for preservation of the dunes, Mr. Anderson occasionally does an illustrated historical article for the Valparaiso *Vidette-Messenger*.

John O. Boyd, Lowville, N. Y., publisher of the *Leader*, was co-chairman of the Michigan Press meeting at the University at East Lansing, April 14. One session of the Press group was held with Kappa Alpha Mu, in national convention at East Lansing.

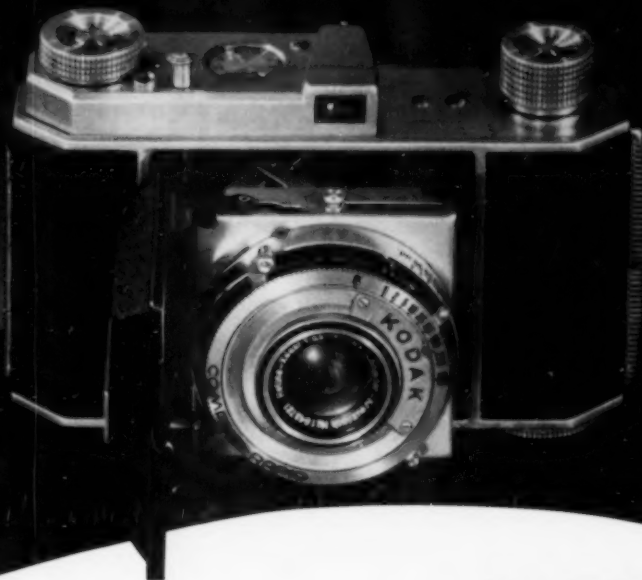
Herman Postlethwaite, Washington, D. C., (many of us have met him at the PSA Conventions), is with the Soil Conservation Service of the Department of Agriculture. In his dual job, he is photo editor, assisting writers, editors and publishers with their illustration problems which are related to conservation of soil and water. He also takes many pictures, specializing in landscapes for information purposes. Postlethwaite handles stories on assignment, or of his own volition, which will help round out his extensive files. His pictures, under a Soil Conservation Service credit line, have appeared in text books, national magazines, and newspapers. An avid "amateur," this man takes 35mm color and 2 1/4 x 2 1/4 inch black-and-white for his own amusement. He became a member of PSA in 1939, and is an associate member of the National Photographic Society of Washington.

Patrick H. Peabody is co-publisher of the Gilroy, California *Dispatch*, "the only daily newspaper in the famous Southern Santa Clara Valley." He also holds interest in two other California papers—a daily and a weekly. Mr. Peabody started his newspaper career as a photographer in Chicago. He has been a staff cameraman in San Francisco and San Jose, and long has been interested in newspaper photography.

A. F. Schonefeld, Jr., Philadelpia, a press and free-lance photographer, really enjoys his monthly NPP, and uses it a great deal in his teaching of photography. Mr. Schonefeld was discharged from the Marine Corps in January. While in the armed services he gained a great deal of valuable experience in press and publicity work. He is especially interested in handling picture story assignments. Schonefeld says "the Photo-Journalism Division is doing nicely . . . that he would like to do something for it because in that way he can get the most from his association with it." That's a wonderful sentiment, and we are happy to say a lot of P-Jers feel that same way about it. Well, there is plenty for all of us to do. Let's all get on the P-J Hand Wagon and make a noise. Boost the P-J Portfolio; boost the P-J "News Letter" and Sag Kash of Synthiana, Ky.; boost PSA and the PSA JOURNAL; boost press photography everywhere—and boost yourself!



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TERRITORIAL COLUMNS

South and Southwest

By C. L. HEROLD
3601 Tanglewood Road, Houston 5, Texas

First off, we want to introduce and to welcome a brand new camera group in the S & SW. So, step up and meet the Houston Photographic Society, now about three or four months old. The founders of HPS felt that there was ample room in Houston for another CC, and set forth to organize. It was decided to limit the membership to an active group of about 25, rather than to strive for volume with the usual high percentage of inactives. To further this goal, each one must participate in at least six of the monthly competitions every year to keep his status as an active member. The temporary officers, which have done a grand job in getting HPS off to a good start are: Tom Haner, chairman; Larry Earnest, secretary; H. R. Miller, treasurer; and Bob Karbowski, print director. Permanent quarters for a meeting place and studio have been obtained in the "Village" area. The members are busily engaged in renovating and painting the building and are landscaping the grounds, not to mention planting a lawn! (We wonder who will get stuck with the mowing job on the latter?).

In addition to the monthly competitions, which are all "open" affairs, HPS has quarterly contests on assigned subjects. Several special affairs are being planned, including joint meetings and field trips with nearby clubs. We were recently invited to be the guest speaker at an HPS meeting. Included in our remarks was mention of the advantages of a club holding a PSA membership, but we could have saved our breath—it seems that one of the first pieces of business handled by HPS was to join PSA!! There are already some individual PSA members in HPS, and we venture a guess there will be more. Adding up everything noted above, and taking into account the membership, most of whom we had the pleasure of meeting, we have no qualms whatsoever about the success of HPS. Best wishes!

Last we forget, the closing date for slides and transparencies for the Second Asheville International, sponsored by our own S & SW Asheville (N. C.) PS is July 10. Their First International was a great success, and the Second is bound to be better. Write Alice Mae Cipar, Woodfin Apts., Asheville, N. C., for an entry blank.

Manuel Ampudia, the capable Mexican pictorialist and new president of the Club Fotográfico de México, recently wrote us to express CFM's interest in active participation in PSA International activities. These matters are now under study by the respective PSA groups, and we hope something to the benefit of all concerned will result. Assisting Ampudia in the administration of CFM in Mexico City this year are: Domingo Desquens, vice-president;

Arturo Vives, secretary; and José Turu, treasurer.

The activities of most camera clubs are, quite naturally, devoted primarily to the photographic (and social) interests of its members. However, we do not always realize that inasmuch as the members are first and always citizens of their community, each club—photographic or otherwise—has a certain amount of civic responsibility. In practically every community today much is being done for the young people for reasons well known to readers of daily papers. Mel Woodbury, APSA, informs us that Fred MacArthur, a charter member of the Oklahoma CC, worked up a plan whereby the OCC will award eight memberships to the outstanding boys and girls in each of the respective photographic clubs in the three Oklahoma City high schools and in the Oklahoma City University. The awards will be made on the basis of competitions within each of the school clubs, and will be judged by OCC. Appropriately enough, the memberships thus won are called the "MacArthur Awards". OCC, and MacArthur in particular, well deserve the plaudits of their community and the rest of us for their civic interest.

The Fort Worth (Texas) PS, the Lake Charles (La.) CC, and the Corpus Christi (Texas) CC are exchanging prints. Now there is nothing unusual about this statement, as hundreds of clubs do it every year. But, in the above cases, FWPS picks the winners and criticizes (on paper) the prints from LCCC and CCCC, while the latter two groups do the same thing on FWPS's prints, *et seq.* It is surprising how much an occasional (or even frequent) outside appraisal of a club's work can add to interest in competitions, and just things in general. It is also amazing how much encouragement some members can get by having their work recognized outside their own club (and possibly not within), and how much harder it makes some of the local, constant winners work when some of their stuff (which looked good to the local gang) comes back, down at the bottom of the list, and its position well documented with constructive and realistic criticism.

An interesting project is under way in the Tulsa (Okla.) CC, under the direction of Frank Heller and Howard Sailors. Twenty-four or more TCC members are contributing 8x10's made from the negative of their best print of the past year toward the formation of a bound volume of TCC's best prints. Each contributor will receive one of the volumes, and non-participating members can purchase a copy for \$10, the money thus received being used to pay the binding costs for all copies. The participating members will make sufficient numbers of 8x10 prints to supply one for each of the books. Before being bound in plastic, the prints will be mounted back-to-back. TCC doesn't claim to be the originator of the idea—nevertheless it is a good one, and we are certain the volumes will become "collectors items" before too long.

Honest Injun, now, can you give a passable definition of "Pictorial Photogra-

phy", sort of off-hand like? We couldn't either, and we were glad to see that Tom K. Widener, editor of the Birmingham (Ala.) CC News, had gumption enough to do something about it when he had the same trouble. He did some research in the Encyclopedia Britannica and came up with the following: "Pictorial Photography is a term applied to camera work done with aesthetic interest, as opposed to that done for scientific, technical, historical, and other purposes". Widener even supplied the BCC Arca readers with Webster's definition of "aesthetic"—"Science of beauty in nature and art". Simple, isn't it? (Yeah, now all we have to do is to make some prints which fit the definition!).



By NEWELL GREEN, APSA
64 Girard Ave., Hartford 5, Conn.

The emphasis everywhere seems to be on color, so much so that the Boston CC is offering a short course this spring to help members make better color slides. The course will consist of three lectures plus a field trip and will be given by Leonard Craske, whose fame as a sculptor threatens to be eclipsed by his skill as a color photographer. Besides a thorough explanation of technique, there will be emphasis on color harmony and composition, and that is where the instructor's artistic ability will give the students a chance to learn things the usual color course doesn't cover. No wonder it was a sellout.

Speaking of color, any club in lower New England which would like to know more about the exacting precision of color processing, should try to persuade Robert Hanson to give it the same talk he gave the Hartford County CC this spring. Bob is head of the Craigmar Color Studios in Windsor, Conn., and he gave a most enlightening talk which stressed the need for extreme precision in color work.

Connecticut has a new camera club council. There were a number of clubs around Fairfield County, all within short distances of each other so that they could easily get together for general meetings and mutual exchange, but there was no organization to bring it about. Consequently, Henry W. Barker, of Stamford, ventured a lead and called for a meeting late in March. Ten clubs responded and showed a willingness to join. Four clubs from Stamford itself were represented and there were delegates from clubs in Bridgeport, Norwalk, Danbury, Greenwich and New Canaan. Permanent organization was discussed as well as prospects for an inter-club competition and an invitational exhibit in the fall. Henry Barker and Richard Hunt were made Chairman and Secretary *pro tem*. The group will be known as the Fairfield County CC Council and all clubs in the section are welcomed.

If any club gets more out of its traveling show, or keeps its members more keenly interested in it than the Bennington (Vt.)

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CC, we surely don't know its name. There is a reason, of course, why Bennington profits so greatly. Somebody puts a lot of time and effort on it. For instance, every club which displays the Bennington Traveling Show is asked to pick its favorites. Bennington keeps an accurate record of these choices, tabulates them at the end of the circuit and sends a copy of the tabulation to every club participating. It keeps everybody interested. In the show which has just completed its rounds, most clubs liked a snow scene by Reuben M. Greene the best, with prints by Francis Hunt and Lloyd as next choices.

The Camera Club of the Providence Engineering Society counted itself lucky at an April meeting when it presented PSAer Roy E. Stryker, of New York, in his talk "Seeing with a Camera." Members learned about documentary photography from an acknowledged master in the field, because Mr. Stryker is famous for his supervision of the photographs taken for the Farm Security Administration. His present work for Standard Oil is also noteworthy.

Jacob Deschin, APSA, Camera Editor of the *New York Times*, was speaker at a meeting of the Boston CC in April and brought the club up to date on some of his provocative ideas as to what sort of pictures we should take.

To give its members a better understanding of photography in general, the Boston "Y" CC is presenting a series of talks on the uses of photography in various fields. At one meeting recently, Dr. Harry Richelson, who is both a dentist and a photographer, told the club about some of the ways the camera is used in the medical and dental professions, illustrating his explanations with many slides.

Only three camera clubs have ever persuaded Samuel Chamberlin, APSA, to take time off from his calendar work to come and speak to them, but one of those three which seems to talk him into an annual appearance is the North Shore CC, of Beverly, Mass. Mr. Chamberlin appeared there recently as critic for the monthly print competition and gave his usual careful analyses.

The Connecticut Valley CC, of Hartford, in cooperation with the Wadsworth Athenaeum is again presenting the Hartford International this summer. It will be shown in the Avery Memorial galleries during August; the judges will be Walter Rutherford, of New York, John R. Hogan, FPSA, of Philadelphia, and your correspondent. Entries close July 18 and forms may be had from Raymond J. LeBlanc, 234 S. Quaker Lane, West Hartford, Conn.

Do you need a new idea for an auction at the club? Like all the others you probably have had gadget auctions and print auctions and extra equipment auctions. If you would like to try a new one, you can borrow an idea from the Portland (Me.) CC. They had an auction of old photographic magazines. Sounds like a fine way to do something about those stacks of back issues we all have piled around, because we are loath to throw them away, even though they have outlived their usefulness.



By REX FROST
37 Bloor St. W., Toronto, Ont.

Thirteen hundred and seventy-three. All seated at a meeting organized by the Toronto Camera Club. It was a record attendance through all those long 62 years during which Canada's oldest photographic organization has been gathering lens and shutter folk together.

When Binghamton, N. Y.'s Al C. Shelton, noted colour expert, agreed to come to the Ontario capital, somebody suggested renting Eaton Auditorium, said to be the finest concert hall in the country. "Pooh-pooh" said some of the wisecracks, "you'll never fill it!" But they jampacked it to hear the visiting celebrity discuss and illustrate the versatility of colour.

Northland CC, North Bay, Ont., recently recommended its members a strength-building diet. Went even farther. Prescribed overalls, working clothes and rolled shirtsleeves for a certain Wednesday meeting. Reason: Moving day from the old hostelry of Railton's Studio to his new ultra-modern streamlined quarters, the photo-studio de luxe. As the club secretary put it: "Here's a grand opportunity to repay Kevin for his generosity in allowing the club to use his premises free of charge. Turn up at the meeting with your biceps bursting your shirt." The strength-building diet urged by the Northland CC Bulletin may reveal a health secret of these northern tarzans. Spinach and Vi-Tone. It may reveal also the recipe of a PSA enthusiastic membership. We had a suspicion it wasn't ginger ale.

Club program chairmen, Canada-wide, please note. Port Arthur's North West CC believes that a small but peppy group can have lots of fun. Secretary Nelson Merrifield explains that it's amazing how you can snap up interest by planning something out of the ordinary. Recently they paired off club members to go hunting for night shots. Just imagine. A clear Canadian spring night. Scent of the northern pine. Soft lights. Two beating hearts, two cameras, one moon . . . per pair. Could be a very intriguing club project, a tonic suitably mixed for seasonal attendance lag.

Canadians did better this year than last at Port Colborne CC's Fifth International. In 1949 Canucks earned only 8 per cent of the total show acceptances. This year 17 per cent. Toronto's Otto Eaton, Pennsylvania's Gottlieb Hampfner, and Rochester's Louis J. Parker monitored the entries. Toronto CC's Roy Hargreaves, Claude Wright and your columnist got four acceptances apiece. Montreal CC's Raymond Caron, APSA, and Hamilton CC's Harry Waddle also clicked for the quadruple count. Hamilton CC's Art Ryan notched three.

In the overall picture of the Port Colborne show 11 Ontario contributors picked off 29 stickers. Quebec Province landed 9 times from an offering of 30 prints. Manitoba, Saskatchewan, Alberta and B. C.

entrants collectively won the judges' okay 8 times out of 51. Many people wonder how the Port Colborne folk get around to financing their big international, with its attractive illustrated catalogue. The last three pages tell the story, listing 93 sponsors who chipped into the "kitty."

Down Hamilton, Ont. way the local branch of C. P. A. C. invited the Hamilton CC and Hamilton Camera Guild to hear National President Alice Stark tell colour fans how to analyze their pictures. Unselfish sharing of a visiting celebrity. Lillian Williams, editor of Hamilton CC's "Bellows" and her husband Dr. Williams recently took a vacation trip to Nassau. Before leaving, her club sheet congratulated Harry Waddle on winning the bronze medal of the Detroit International for his print, "Blimp Man."

On the subject of winners, the *Family Herald* and *Weekly Star* has announced the result of a photo competition. Contest ran for a year. Brought in more than a thousand prints from all over the Dominion. The *Montreal Daily Star* headlined its news item telling the story, tersely thus: "Westmount Housewife's Hobby Results In \$200 Prize." Above the column was a picture. A lady smiling the whole two hundred bucks worth as she received the cheque from the Principal of Macdonald College—Blossom Caron, APSA, your former JOURNAL correspondent for Canada, winner of the eastern division competition of the Montreal publication.

The MAP, Club is keeping itself well on the MAP overseas as well as in hometown Montreal. The Amateur Photographers Club there has been circulating a group of members' prints in England, where they went an extensive round. The English Club which did the routing recently returned the prints, together with some of their own for the Montrealeers' to enjoy. Now the P. Q. group has shipped a second collection overseas.

Looking west is to report that Winnipeg's Eighth International hung 49 Canadian prints. It was a better-than-usual Canadian showing, 25 per cent of the Exhibition's grand total. Irvine Dawson, of Victoria CC, teamed with Clarence Sims, of Toronto CC, to lead the Canadian field each with a count of four acceptances.

Calgary Colour Photo Club celebrated, banquet-wise, its first anniversary with 135 memberships in a year, which reveals that colour is catching on in a big way around Stampede headquarters. Following the dinner came the customary ceremony of cutting the birthday cake, single candled, with an accompaniment of multiple flash guns. Later, Earle Trager, visiting from Washington with Mrs. Trager, showed slides of Ethiopia.

Jim "you-can't-keep-the-guy-out-of-the-news" McVie, Victoria CC, is always breezy with ideas. Here is one of his latest. Let's form an exclusively East-West Canadian division of PSA Portfolios. Sounds like a good thought. The East doesn't know the West well enough, photographically, or any other way. Anyone interested? Better write him 2130 Central Ave., Victoria, B. C.

REPORT OF THE 1950 NOMINATING COMMITTEES

David J. Stanley, APSA, Chairman of the PSA Nominating Committee, has announced the following slates, which will be voted upon by the membership of the Society during August.

NATIONAL DIRECTORS

West—K. V. Arntzen, APSA, 2948 Florence St., Berkeley 5, Calif. Age 51. Fellow of the Royal, Associate of the Pittsburgh and Wilmington International Salons, having had 570 prints accepted in 203 exhibitions from 1942 to date. One of the founders of the San Francisco International, Honorary Member of Berkeley CC, active member and four-time winner of the annual "Oscar" of the Oakland CC, former Western Editor of PSA JOURNAL, PSA District Representative.

Midwest—Miss Doris Martha Weber, APSA, 2024 East 86th St., Cleveland, Ohio. School teacher. PSA Director since 1948. Four-Star exhibitor, Associate member of Boston CC, Sponsor of the Austin (Minn.) Portfolio CC, member of the Royal, Cleveland Photo Society and Western Reserve Pictorialists. General Secretary of Pictorial Portfolios, Director of Art for Pictorial Division, and Program Chairman for Pictorial Division's section of PSA's Baltimore Convention. Edited 1948 Pictorial Division Yearbook.

East—Norris Harkness, APSA, 55 E. 72nd St., New York 21, N. Y. Writer, teacher, lecturer. Former Camera Editor, *New York Sun*, and "Nature" Magazine. One-time executive secretary of the Photographic Dealers Association and the N. Y. Guild of Photographic Dealers. Member of Advisory Board of Metropolitan CC Council and Volunteer Service Photographers, member Camera Club (NYC), Oval Table Society, etc.

DISTRICT REPRESENTATIVES

District No. 1

Maine, New Hampshire, Vermont, Massachusetts, Connecticut, and Rhode Island. No. of Representatives to be chosen—2.

Les Ellis, Waton, Mass.
Newell Green, APSA, Hartford, Conn.
G. Lewis Johnson, Watertown, Maine
Paul Sperry, New Haven, Conn.
Allen Simon, APSA, Lynn, Mass.

District No. 2

New York and New Jersey. Number of Representatives to be chosen—8.

H. C. Carlton, APSA, Rochester, N. Y.
Ira Current, Binghamton, N. Y.
Paul Gibbs, New York, N. Y.
Harry Lerner, APSA, New York, N. Y.
Norman Lipton, Brooklyn, N. Y.
Helen Manor, APSA, New York, N. Y.
Walter McKee, Pelham Manor, N. Y.
Herbert Paschal, New York, N. Y.
Ruth Sage, Buffalo, N. Y.
Arnold Wise, Albany, N. Y.
Paul J. Wolf, Hawthorne, N. Y.

District No. 3

Pennsylvania, Delaware, Maryland, District of Columbia, Virginia and West Virginia. Number of Representatives to be chosen—4.

A. Aubrey Bodine, FPSA, Baltimore, Md.
Mrs. Caryl Firth, Trappe, Md.
Dr. J. O. Fitzgerald, APSA, Richmond, Va.
John J. Hopkins, Towson, Md.
Edward Howell, APSA, Wilmington, Del.
Frank Nofziger, APSA, Roanoke, Va.

District No. 4

Ohio, Indiana, Kentucky and Michigan. No. of Representatives to be chosen—5.

Jack Clemmer, West Richfield, Ohio
Dr. C. J. Marinus, APSA, Grosse Pointe, Mich.
Robert McFerran, APSA, Fort Wayne, Ind.
Mrs. Constance Phelps, Hon. PSA, Grosse Pointe, Mich.
Bernard Silberstein, APSA, Cincinnati, Ohio
Marvin Temple, Cleveland, Ohio
P. J. Zeidler, Akron, Ohio

District No. 5

Tennessee, Georgia, Florida, Alabama, Mississippi, North Carolina and South Carolina. Number of Representatives to be chosen—2.

Fred Bauer, Memphis, Tenn.
Cortland Luce, Atlanta, Ga.
Hugh Montgomery, Birmingham, Ala.
Dr. C. C. Turner, APSA, Memphis, Tenn.

District No. 6

Louisiana, Arkansas, Missouri, Kansas, Texas and Oklahoma. Number of Representatives to be chosen—3.

Mrs. M. W. Lenta, APSA, Wichita, Kan.
William Morning, Kansas City, Mo.
Herbert Ohm, APSA, San Antonio, Tex.
J. J. Rudnay, St. Louis, Mo.
George Wilson, St. Louis, Mo.

District No. 7

North Dakota, South Dakota, Nebraska, Illinois, Iowa, Minnesota and Wisconsin. No. of Representatives to be chosen—5.

Sten T. Anderson, APSA, Lincoln, Neb.
Frank Fenner, Jr., APSA, Chicago, Ill.
V. H. Hunter, APSA, Omaha, Neb.
Blanche Kolarik, APSA, Chicago, Ill.
D. Ward Prase, APSA, Winnetka, Ill.
J. Philip Wahlman, APSA, Chicago, Ill.
P. W. Young, Minneapolis, Minn.

District No. 8

Washington, Oregon, Montana, Idaho and Wyoming. Number of Representatives to be chosen—2.

Charles Getzenlander, APSA, Forest Grove, Ore.
George L. Kinkade, APSA, Auburn, Wash.
Jon Rasmussen, APSA, Seattle, Wash.
H. H. Sheldon, Portland, Ore.

District No. 9

California, Nevada, Utah, Colorado, New Mexico and Arizona. Number of Representatives to be chosen—5.

Elmore Adams, APSA, San Francisco, Calif.
P. Douglas Anderson, APSA, San Francisco, Calif.
Dewitt Bishop, Sacramento, Calif.
Harvey Brown, APSA, Los Angeles, Calif.
Elbridge Newhall, APSA, Santa Barbara, Calif.
Robert Officer, APSA, Denver, Colo.

S. Wayne Smith, Salt Lake City, Utah
Guilford Soules, Berkeley, Calif.
Walter Sullivan, San Francisco, Calif.

District No. 10

Alaska, Hawaii, Puerto Rico and Canal Zone. Number of Representatives to be chosen—2.

Urban Allen, Honolulu, Hawaii
Fred Ishihashi, Honolulu, Hawaii
William P. St. Clair, Jr., Honolulu, Hawaii

In connection with the 1950 PSA election, the following facts should be noted:

1. The publication of these names in the June JOURNAL complies with the Constitution and By-Laws, Article 7.

2. That petition nominations can be made for additional candidates, in accordance with Section 5 of Article 7, which reads as follows:

"Section 5. Petition Nominations. Any twenty-five (25) or more members of this Society may submit to the Nominating Committee a written petition nominating any eligible member for any national elective office, or for membership on the Board of Directors. Any ten (10) members of this Society resident in a District may submit to the Nominating Committee a written petition nominating any eligible member resident in that District for office of District Representative. All petitions properly submitted to the Nominating Committee at least one (1) month in advance of the election date shall be recognized and the names of candidates so nominated shall be placed upon the official ballot."

3. That the Board has established the following election schedule for 1950:

April 1, 1950	Deadline for preparation of slate by Nominating Committee
April 15,	Deadline for Nominating Committee to submit slate to PSA JOURNAL, accompanied by brief biographical sketches, for publication in June issue
July 1,	Deadline for receipt of Petition Nominations by Nominating Committee
July 7,	Deadline for Nominating Committee to submit complete slate to Elections Committee, including Petition Nominations
August 1,	Date of Election, deadline for mailing ballots, prepared by Elections Committee, to membership
September 1,	Deadline for receipt of ballots at PSA Headquarters
September 9,	Deadline for Elections Committee to complete counting of ballots

DIVISIONAL OFFICERS

It is the duty of each Division of PSA to nominate a slate of candidates for the offices of chairmanship, vice-chairmanship, and secretary-treasurer. The Nominating Committees of the respective Divisions have submitted the following names. It should be noted that the same schedule and procedure will be followed in the case of Divisions as listed above for national direc-

tors and representatives. Additional nominations for any divisional office may be made by petition to the Division Nominating Committee up to July 1st.

COLOR DIVISION

Chairman—George F. Johnson, State College, Pa.
Vice-Chairman—Blanche Kolarik, APSA, Chicago, Ill.
Secretary—Paul J. Wolf, Hawthorne, New York

MOTION PICTURE DIVISION

Chairman—Vincent H. Hunter, APSA, Omaha, Nebr.
Vice-Chairman—A. Millard Armstrong, Columbus, Ohio
Sec.-Treas.—Alfred S. Norbury, Kansas City, Missouri

NATURE DIVISION

Chairman—Harry R. Reich, North Tonawanda, N. Y.
Vice-Chairman—Willard H. Farr, Chicago, Ill.
Secretary—Ruth Sage, Buffalo, N. Y.

PICTORIAL DIVISION

Chairman—William E. Chase, APSA, St. Louis, Mo.
Vice-Chairman—Ray Miss, APSA, Milwaukee, Wis.
Sec.-Treas.—Lewis T. Reed, APSA, Chicago, Ill.

TECHNICAL DIVISION

Chairman—William F. Swann, Rochester, N. Y.
Vice-Chairman—Theron T. Holden, Rochester, N. Y.
Sec.-Treas.—William Fritz, Mamaroneck, N. Y.



NEW ENGLAND CHURCH

E. C. French

First Monthly Print Contest

For the first month's prints, we were fortunate in having as judge, Alfred DeLardi, FPSA.

The newness of the contest apparently was the reason for an entry of smaller size than we hope will be the case in the future, but to all of these entrants we wish to express our thanks for their interest and hope, whether or not they received a medal this month, that they will continue to enter the monthly contests right along.

Entrants should remember to have the correct classification on the back of the print. We found in a number of instances that the class into which the print was desired entered had been omitted, and in one instance that the name and address was also left off.

Due to the fact that no mounting is necessary and that small prints are the rule rather than the exception, it is hoped that many advanced workers will enter competitions as well as beginners. The medals that are to be awarded are well worth the effort to enter of even successful salon exhibitors.

The winners for May are as follows:
Advanced group, nature class, first place to Everett W. Saggus, Elberton, Georgia, for his "Whip-Poor-Will"; second place to Philip S. Prioleau, Daytona Beach, Florida, titled "Polomino in the Storm."

Advanced group, action, first place G. L. Weissenburger, 1307 Grand Ave., Keokuk, Iowa, titled "Playful Porpoises"; second place to Dr. John S. Anderson, without title but of a leaping game fish.

Advanced group, pictorial, first place to Dr. John S. Anderson, First National Bank Bldg., Grand Island, Nebraska, of a street scene; second place to Louis A. Puggard, Detroit, Michigan, for a very appealing picture of a cat and dog titled "Snug as a Bug."

Beginners group, nature, first place to Chester W. Hodgson, 219 Claremont Ave., Jersey City 5, N. J., not titled, a pattern study of a tree stump; second place to Elliot C. French, titled "The Sewing Circle."

Beginners, action, first place to Irving Rosen, 97-51 Corona Ave., Corona, Long Island, New York, for his basketball players in action; second place to Chester W. Hodgson, for a beach scene of photographers at work.

Beginners, pictorial class, first place to Elliot C. French, Canton, Ohio, titled "New England Church" and second place to Chester W. Hodgson, for marine scenes.

WALTER ALLEN, Chairman



PLAYFUL PORPOISES

G. L. Weissenburger



WHIP-POOR-WILL

E. W. Saggus



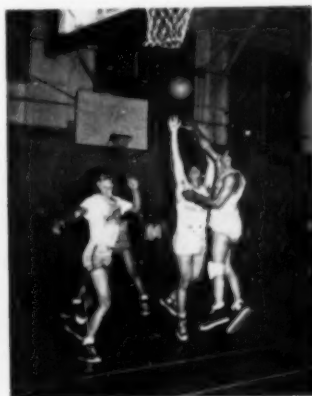
STREET SCENE

Dr. J. S. Anderson



PATTERN STUDY

C. W. Hodgson



ACTION

Irving Rosen

PSA Convention News

Lloyd Jones Will Receive 1950 PSA Progress Medal

Dr. Lloyd Ancile Jones, Hon. FPSA, of Rochester, N. Y., unanimously has been selected as recipient of the 1950 PSA Progress Medal in recognition of his research in and contributions to better technical understanding of the photographic process. Presentation will be made during the Society's annual convention at Baltimore, Md., October 18th. At that time Dr. Jones will deliver the Progress Medal Address before the Society's members.

The PSA Progress Medal Committee, of which Adolf Fassbender, Hon. FPSA, of New York, N. Y., is chairman, explains that Dr. Jones' work directly has benefitted all photographers by creating more thorough understanding of the characteristics of the photographic medium and their application to various photographic problems. The official citation reads:

"To Dr. Lloyd A. Jones for his great and outstanding contributions to photographic science and practice, especially in the field of sensitometry, and prominent work in original and productive photography, photometry, colorimetry, motion picture engineering, design of interpreting apparatus, ASA speed rating, and leadership."

Active in photographic research for nearly 40 years, Dr. Jones is credited with developing the theory of tone reproduction in the photographic process. He has conducted, directed, and published the results of extensive investigations in the fields of photometry, physical optics, illumination engineering, colorimetry, physics of photography, visual sensitometry, and motion picture engineering. He is a recognized international authority on photographic sensitometry and the application of the psychophysics of vision to photographic problems. He holds 18 patents and various photographic and technical publications have presented nearly 100 technical articles by him.

Dr. Jones was born in 1884 at York, Neb., and was educated in the York public schools, University of Nebraska, and University of Rochester. He has been head of Eastman Kodak Company's Physics Department since 1916. He served during World War I with the U. S. Naval Reserve, specializing in camouflage investigation, and during World War II was active in the work of the National Defense Research Council, Office of Scientific Research and Development, and American Standards Association War Emergency Committee Z52.

He has received the degrees both of Bachelor and Master of Science in Elec-

trical Engineering from University of Nebraska and the honorary degree Doctor of Science from University of Rochester. He has been honored by awards from the Association of Scientific Apparatus Makers, Society of Motion Picture Engineers, Photographic Society of America, Royal Photographic Society, National Association of Manufacturers, Optical Society of America, and other organizations.

Convention Features

Final plans for the PSA Baltimore Convention at the Lord Baltimore Hotel, October 18, 19, 20 and 21st, are nearing completion and room reservations may now be made with Mr. George M. Rowan, Chairman of the Registration Committee, 306 North Charles St., Baltimore 1, Md.

The Lord Baltimore Hotel, Headquarters of the Convention, has set aside 300 rooms. Both the Southern and Emerson Hotels, both of which are within two blocks of headquarters, will also be used. Complete information on rates, etc., will be published next month, along with many details of the featured programs.

Reservations should be made as soon as possible, as advance reports give every evidence that there will be a very large out-of-town attendance.

Among the features will be the opening of the PSA Exhibition, a boat trip and oyster roast, panel discussions and debate, and a list of internationally known speakers, including at least one from Europe. A reception and the Annual Membership Meeting will be held on Wednesday and the Convention will close with the Banquet and awarding of Fellowships and Associateships.

Plan now to spend October 18-21st in Baltimore and have the time of your life!



SNUG AS BUG

L. A. Puggard



Walter Mural
Jean Elwell, using Dr. Glenn Adams as a model, showed how she made many of her exhibition prints from dime store props at the Chicago Regional Convention.

REGIONAL CONVENTION

With a registration of slightly over 500, the PSA Midwest Regional Convention in Chicago was an unqualified success, thanks largely to the untiring efforts of the Committee, headed by Otho B. Turbyfill. PSA members from such distant points as Pasadena, Calif., and Havana, Cuba, were in attendance as well as large delegations from Springfield and St. Louis, Milwaukee, Detroit, etc.

Aside from the formal programs, there were numerous committee and board meetings, cocktail parties, etc. The program, which was arranged by the PSA Divisions consisted of the following:

Friday Evening, April 14th: "Still Life Demonstration" by Stephen Deutch, under the auspices of the Color Division, and a "Print Analysis" with Harry Shigeta, Hon. FPSA, as moderator and a panel of Nicholas Haz, FPSA, Burton D. Holley, APSA, and S. P. Wright, sponsored by the Pictorial Division.

Saturday Morning: "Light Sources for Photography," Richard Blount—Technical Division, "New Deal in Farm Pictures," Fred Knoop—Photo-Journalism Division, "Symposium on Use of the Unusual and Unique in Motion Pictures," M. P. Div. Sound movie, "Functional Photography in Industry," William F. Swann—Technical Division.

Saturday Afternoon: "Insect Photography," Willard H. Farr—Nature Div., "Photographing a City," Rus Arnold, Photo-Journalism Div., "Plant Hunting in Mexico and Central America," Marjorie Carlson—Nature Div., "Is Your Photography Decrepit? Prop It Up!" Jean Elwell—Pictorial Div., "Many Wings," A. C. Kadow—Motion Picture Div., "Stereo Lecture and Demonstration," George Lewis—Color Div., "Demonstration of Group Photography," Wood "Pops" Whitesell.

Saturday Evening: Banquet. With Phil Wahlman as toastmaster, the speaker was

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Donald McGilney, traveler, author, composer, radio commentator, who told of some of the places he had been. Color slides were shown and President Mulder made a report to the membership and passed out Cornerstone Membership keys.

Beautiful weather greeted the Sunday morning field trips to the Chicago Natural History Museum and Lincoln Park Zoo under the leadership of Anne Dewey and Jane Edwards.

National Lecture Tour

Earle W. Brown, Chairman of the PSA NLP, 19555 Greenlawn, Detroit 21, Mich., is compiling a list of available speakers for distribution to camera clubs in the fall. It is requested of all club secretaries that they send him the names of any qualified members who might be willing to speak to other clubs, along with their subjects.

The attention of groups is called to the announcement in the May JOURNAL, page 260, of the Western tour of Miss Doris M. Weber, APSA, PSA Director, beginning June 17th and extending a month. She will cover Springfield, Ill., Kansas City, Omaha, Denver, Salt Lake City, Los Angeles, San Francisco, Sacramento, Portland, Seattle, Spokane, Minneapolis, and Milwaukee. Contact Brown for details.

OFFICIAL NOTICES

The Seventh Meeting of the PSA Board of Directors was held in the club rooms of the Fort Dearborn Camera Club, Chicago, Illinois, on April 15, 16. The President called the meeting to order at 10 AM and the following members were present: Messrs. Brown, Chambers, Chase, Christhill, Howison, Johnson, Mulder, Oelman, Wright, Mrs. Janson, and Miss Weber.

The following were present by invitation during part of the meeting: Messrs. Blaha, Cross, Manovill, Pietschmann, Quellmalz, and Swann.

Mr. Mulder reported that the development of the philosophy and conditions of



Presentation of the first PSA Service Medal by President Mulder (left) to Paul W. Gibbs (right) at the 1950 "Tops." The award was given to Mr. Gibbs for his outstanding contributions in establishing and organizing "Tops in Photography" and for his worthwhile contributions in promoting photography in the New York area.



PSA Convention, Baltimore, Md., October 18-21, 1950

the PSA Achievement Award has been referred to the Special Awards Committee. He also reported that the "Drive of Champions" started on March 15.

Mr. Blaha reported unanimous election of C. L. Herold of Houston, Texas, to receive a PSA Service Medal in recognition of efficient handling of the National Club Print Competitions. The Board approved this award and instructed the President to arrange for its presentation.

Walter Allen was appointed Chairman of the Print of the Month Competition Committee with the approval of the Board. It was ruled that judging of this competition may be held in different cities, at the discretion of the Committee.

Mr. Johnson reported that the Who's Who black-and-white pictorial listing now contains about 800 names and will probably total 1500 to 2000 when completed.

Mr. Johnson reported developments in the investigation of a Division for Beginners, stating that this activity should be at the division level, rather than under consideration by the entire Society. He recommended that the matter be referred to the Divisions. This recommendation was approved.

Mr. Chambers reported that 134 Cornerstone Memberships have been enrolled and that a few additional ones have indicated their desire to become Cornerstone Members but have not as yet made payments. The special Cornerstone Membership keys and pins are available and some were presented on April 15 at the Midwest Regional Convention Banquet. Other members will receive their keys and pins by mail soon. District Cornerstone Membership Committees have been activated to continue the enrollment.

During part of the meeting several District Representatives and other members were invited to join in a general discussion on PSA benefits and activities. The following suggestions evolved:

1. Ralph Gray presented his "Petite Salon" idea as a means for activating beginners and to help bring new blood into camera clubs through competitions and salons for small prints. There was unani-

mous and enthusiastic approval of the idea and it was referred to the Membership Service Committee.

2. Axel Bahnsen suggested a PSA vacation school of photography. This matter is being investigated further.

3. Frank Fenner suggested that PSA sponsor classes for new camera purchasers. This idea was referred to the Membership Service Committee.

4. Charlotte Fredrick and Rus Arnold suggested that PSA sponsor week-end field trips. This was referred to the Membership Service Committee.

5. Walter Parker suggested that PSA urge each club to give a PSA membership to its beginner member making the greatest progress in a year.

Mr. Scales reported by letter that the Publications Committee has approved appointment of publisher's representatives for PSA JOURNAL to obtain advertising. The Board approved the appointment of John Whiting to succeed Mr. Scales as Chairman of the Publications Committee.

Treasurer Heller reported by letter that he had reappointed Arnold Stubenrauch Chairman of the Headquarters Committee. The Board approved this appointment.

The President announced acceptance by Lyall Cross of appointment to fill the remaining District No. 4 Representative term resulting from the resignation of Earle Brown.

Mr. Wheeler reported by letter that the Honors Committee has received honors applications as follows:

Associateship	98
Fellowship	39
Honorary Membership	11
Honorary Fellowship	5

The Board approved the nominations for District Representatives as presented by Mr. Stanley by mail.

Mr. Oelman reported receipt of an invitation from Detroit members to hold the 1951 Annual Convention in Detroit. Lyall Cross, Walter Pietschmann, and Earle Brown read invitations from several civic organizations and from hotels, and they stated that immediate action by PSA was necessary in order to reserve permanently the suggested dates, October 10-13. The Board voted unanimously to accept the Detroit invitation to hold the 1951 Annual Convention there October 10-13.

Mr. Oelman reported that Wood Whitesell has been booked for appearances in 23 cities and that the average attendance for the first half of the tour was about 200 persons per lecture.

Mr. Fassbender reported by letter that the Progress Medal Committee has unanimously selected a noted scientist and technician to receive the 1950 Progress Medal. The Board approved this selection, which will be announced later.

Mr. Blaha, reporting for the Color Division, stated that the new bulletin titled "Activities - Benefits - Services" has been well received and that the first 4000 copies have been used in membership campaign activities. The Board urged other divisions to make similar bulletins available covering activities in their divisions.

It was decided to hold the next meeting at PSA Headquarters, Philadelphia, Penn-

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RANGEFINDER BESSA

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New York 1, N. Y. • LOngacre 4-1600

sylvania, on May 20 and 21 and to declare that meeting the Semiannual Meeting of the Board.

There being no further business, the meeting was closed at 1:45 PM April 16.

NEW MEMBERS APRIL 1950

New Members	Nominators
Allen, Miss E., Brooklyn, N. Y.	B. E. Buckley
Amadio, M., Mexico, Mexico	F. A. DeVarona
Anderson, Lewis, Palmdale, Cal.	R. E. Peterson
Arthur, Edmund, La Jolla, Cal.	So. Calif. C.C.
Ash, Bill E., Ringgold, Ga.	H. Jackson
Barnett, Charles, Sioux City, Iowa	F. M. Rourke
Bergquist, John R., Omaha, Neb.	W. Whitesell
Bertram, Edward V., Philadelphia, Pa.	P. Cass
Bidenback, John, McConnelville, Ohio	P. Cass
Blythe, Miles R., Jackson, Mich.	H. Perry
Blissett, Byron B., New York, N. Y.	Membership
Bruener, Herman C., New York, N. Y.	Membership
Brewster, George, Arlington, Va.	P. Cass
Brownell, F. R., Montezuma, Iowa	F. Quilmale
Buck, Robert, El Monte, Calif.	F. L. Richards
Cardinal, Manuel, Caracas, Venezuela	F. Delima
Chaput, Cpt. Joseph, El Paso, Texas	C. J. Perry
Chavez, Charles, El Paso, Texas	W. Whitesell
Cherney, Paul, New York, N. Y.	N. Lipson
Cole, Dr. Wilbur, Los Angeles, Calif.	F. Clark
Coleman, George, Chicago, Ill.	M. Young
Comas, Juan, Oriente, Cuba	F. Flacore
Cowap, Raymond, Montreal, Can.	Membership
Dandridge, John, Philadelphia, Pa.	Membership
Davis, Paul, Rochester, N. Y.	Membership
Davis, Robert M., Irvine, Penna.	Membership

Dell, Hubert C., Toronto, Canada	P. Cass
Driver, Wallace, Hometown, Penna.	Membership
Evans, Edwin, Forest Hills, N. Y.	Membership
Fahney, Daniel, Hagerstown, Md.	Membership
Fahon, Dr. John, Worcester, Mass.	Membership
Farley, E. Beryl, Columbus, Ohio	A. M. Armstrong
Field, Austin, Chicago, Ill.	M. Young
Friedman, John, Tiffin, Ohio	Membership
Fuller, J. W., Chattanooga, Tenn.	A. V. Slader
Galdony, Dr. L., Detroit, Mich.	E. W. Brown
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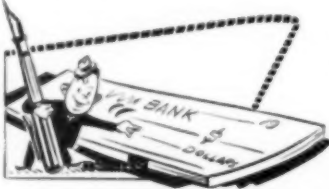
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PHOTOGRAPHIC SCIENCE AND TECHNIQUE

A quarterly technical supplement to PSA Journal

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EDITORIAL

"Our object is primarily to recognize and publish what is good rather than merely to exclude the faulty. The editor would be, and indeed is, embarrassed to have faulty manuscripts slip by him; but he would be even more pained to find that in his ignorance or blindness he had refused to publish and so had lost to science, something good and useful."

THESE WORDS written last year by Arthur B. Lamb, who was for many years Editor of the *Journal of the American Chemical Society*, describe pretty well the attitude of the editorial board of *Photographic Science and Technique*. The responsibility for editing an American journal dealing exclusively with the scientific and technical aspects of photography weighs rather heavily on our editors. Most of the staff, despite their individual qualifications in the photographic industry, have had no great deal of previous experience in editorial work. Several who were the authors of past technical papers are for the first time editing the papers of others. Considerable advantage is taken, therefore, of the wisdom and example of editors of American scientific publications and technical journals in other fields that have been conspicuously successful.

The editors of the technical supplements do not believe that, as a matter of publishing policy, they can copy or closely imitate any existing technical journal. The scope of the PSA JOURNAL technical supplements, as defined in the title *Photographic Science and Technique*, deals with a broad field. "Photographic science" embraces all those aspects of science concerned with the keystone of photography, sensitivity to radiant energy. The devices, materials and methods useful in the photographic process and the techniques used in applying photography to technical problems involve many fields of engineering.

Here is a journal concerned both with *why* photography works and *how* photography works. It must deal with each individual science according to the traditions and in the idiom of that science. It must deal with engineering matters in a professional way. Above all it must be unmistakably understandable to the technical photographic worker. In addition to specialized knowledge of some technical field involving photography, our technical photographic worker is assumed to be an individual having a broad general knowledge of the sciences and a technical acquaintance with the photographic process.

Research papers dealing with the scientific aspects of photography and theoretical dissertations on the photographic process will be at home in the pages of these technical supplements to PSA JOURNAL. The task of the editors with respect to research papers will be at a thankful minimum. Only the obvious errors that occasionally slip by the typist or the author absorbed in his work will be cor-

rected. Questions of accuracy, scientific validity, priority and other technical considerations will be left to referees. The editors are happy to announce that the services of the outstanding experts in the United States in the field of photography and associated fields of electricity, electronics, mechanical engineering, chemical engineering, plastics, graphic arts, optics and others have been freely offered on a continuing basis. Every effort will be made to assist authors who have language difficulties or who have something of importance to communicate but lack skill in writing.

The technical supplements are sponsored by the PSA Technical Division which provides the editorial talent and part of the editorial expenses. They are technical supplements to PSA JOURNAL and not Technical Division supplements. News and views of the Technical Division will continue to be found in their proper place in PSA JOURNAL.

A Slight Change in Name

IMMEDIATELY after the January technical supplement to PSA JOURNAL appeared, a number of helpful comments were received by the editors. Several readers pointed out the difficulties and confusion that might arise if *Photographic Science and Technique* was not closely and clearly identified with the JOURNAL.

As a result of these suggestions from interested readers, certain slight but technically important changes have been made in this second technical supplement. The main title is PSA JOURNAL, Section B. The former title *Photographic Science and Technique* now appears as a subtitle. Also, the volume and number identification of the technical supplement have been changed to correspond to the volume and number of the PSA JOURNAL with which it appears.

These slight changes are important to the librarians and bibliographers who requested them. The present titling and numbering method will allow *Photographic Science and Technique* to be bound in the same volume with the PSA JOURNALS, or separately, as the reader prefers. Technical supplements bearing the same volume and number listing as the PSA JOURNALS with which they were issued will be made easier for bibliographers to reference and easier for literature searchers to locate.

In the center of this issue, immediately following page 38, a new cover has been provided so that owners of the January 1950 first issue of *Photographic Science and Technique* may replace their old cover to agree with the new system. The entire four-page center section may be easily removed by pulling it out and the new cover may be applied to the old by gluing the four corners. The first issue will then be labeled properly PSA JOURNAL, Section B and will be identified with Volume 16, Number 1 of the PSA JOURNAL with which it was issued. P.A. & L.F.

Volume 16, Number 6, June 1950 PSA JOURNAL SECTION B

PHOTOGRAPHIC SCIENCE AND TECHNIQUE

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Some Aspects of Deep Sea Underwater Photography[†]

JAN HAHN*

MANY EXCELLENT underwater photographs, in black and white, color, still and motion, have been made at shallow depths using hand operated cameras and the sun as a light source. Although it appears that the many pioneers in this field have not received adequate recognition, it is my intention to discuss another type of underwater photography; deep underwater photography, using automatic cameras and artificial light sources. The equipment will not be described in detail. This information can be obtained from the available literature.

Surprisingly enough there appears to have been a lag of about 40 years in the development of this photographic technique. Apparently little progress was made between 1899—when Boutan¹ devised an automatic camera for use in the Mediterranean—and the middle 1930's. Since then several automatic underwater cameras have operated successfully. The Ewing underwater camera,² a single shot camera designed to operate at the ocean bottom, has had the most consistently good results. The other, the Harvey camera,³ designed to obtain motion pictures of luminescent fish, has worked successfully at varying depths, but, unfortunately, did not obtain photographs of such fish.

Two Classes of Problems

The problem, then, is divided into two classes: photography at the bottom and photography at intermediate depths. Both classes have three requirements, or stumbling-blocks, in common: the instrument must be small in weight and volume, a suitable light source must be provided and a seagoing vessel equipped with a special winch is necessary. The physical and optical requirements, although capable of improvement, seem to be a minor problem.

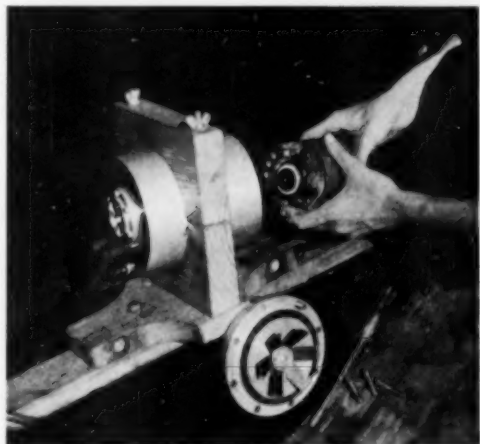
It may be well to take up the last requirement first; the seagoing vessel. The only suitably equipped non-government owned ships available for such work are the vessels of the oceanographic laboratories. These are available, under certain conditions, to anyone with a suitable program. Since, for example, it costs about \$300.00 a day to operate the research vessel *Atlantis* at sea, it is obviously impractical to send a ship to sea solely to make underwater photographs. Fishing vessels may be used near the coast at depths within the capacity of their winch and cable equipment but the cost is rather prohibitive. To meet present day expenses a variety of tasks have to be accomplished on each voyage, and the ship has to cover as much ground as possible. Available space and time are at a

premium. The camera, then, has to be small and light so that it can be quickly set overboard and retrieved, and the man operating the camera should be able to perform other duties on board the ship.

Loss of Camera

On board the *Atlantis* the cameras are lowered from an electrically operated winch provided with 20,000 feet of 5/32 inch wire. A stick is held against the wire, so that the operator can feel the slight shock when the camera hits the bottom and stop the winch immediately. If this is not done, the cable will loop around the instrument, fouling it and more than likely break off. I may as well point out that anyone who builds an underwater camera must be willing to lose it. This may happen the first time it is lowered or the hundredth time, but it will be lost sometime, be sure of that. Or it may bang against the ship's hull and smash to pieces. Comparatively cheap and rugged construction is thus another requirement.

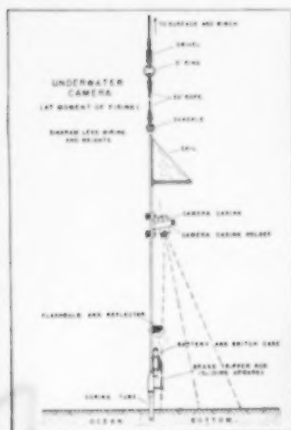
The light source remains the greatest obstacle. Cable losses and weight of the cable make it impractical to use an electric cable leading from the deck of the ship. The power unit has to be placed with the camera and thus needs to be light and compact. The simplest rig is the



Inserting the single-exposure Ewing underwater camera into the aluminum pressure chamber. The camera contains a container of drying agent to prevent moisture from condensing on the lens. Below the plate glass window in the pressure chamber are cables leading to the flashbulb and to the tripping mechanism. All photographs courtesy Woods Hole Oceanographic Institution.

[†]Read at Rochester Section, PSA Technical Division, meeting January 22, 1950.

*Contribution number 508 from the Woods Hole Oceanographic Institution. Received February 2, 1950.



Ewing underwater camera ready to be lowered from the research vessel Atlantis. The electrically operated winch is shown to the right. Small "sail" on top of the camera prevents rotation of the unit on the wire cable.

single flash unit of the Ewing camera. The disadvantage is that it has to be returned to the surface before another picture can be taken. Harvey first used a 50 candlepower headlight No. 1, switched on and off by a timing motor supplied by two six-volt batteries, and later employed a General Electric T-10 electronic flash tube with a condenser, charging from a storage battery. Early last year, this camera was re-designed by D. M. Owen, of the Woods Hole Oceanographic Institution, who has taken many excellent underwater photographs. Owen used a spillproof midget wet cell and dry batteries. Leakage and condensation in the high voltage system gave him much trouble but some successful photographs were made. A leak in one place could spread to other parts of the camera.

Ideal Flash

The ideal features would be an electronic flash capable of making repeated exposures without being raised to the surface. The flash must be at least as bright as that from a $\#5$ bulb and be arranged so that it can be started at any given depth, between certain depths, or at bottom contact. The rate of flash must be changeable from about once every two seconds to once every five minutes. The camera and light unit should preferably be in separate pressure cases. The light itself must be as far away as possible from the lens to minimize the effect of light scattering which is serious when there are many suspended particles in the water.⁴ It is preferable to place the camera and the light unit in separate pressure cases. Thus there is no need for high voltage lines to run from the light to the main chamber, which might cause condensation and attendant cable losses or leaks. The units should be fitted in round pressure chambers capable of withstanding 10,000 psi, while power may be supplied by dry batteries or spillproof cells. The entire light unit should not weigh more than 50 lbs. Several such cameras are now being built at the Woods Hole Oceanographic Institution.

The camera units that have been used range from 35mm Robots and adaptations of lens and shutter of reflex cameras in the Ewing camera to 16mm and 35mm movie cameras in the Harvey camera. A large negative is prefer-

able. The single light source makes it difficult enough to print underwater photographs, which are usually overexposed in the foreground and underexposed at the edges. The cameras were placed behind glass windows in the pressure chamber.

Color

Color film has not been used much in flashlight photography underwater. The earliest results were obtained by Longley and Martin in 1927.⁵ Although their excellent Autochromes were made in shallow water they deserve mention since the investigators used an ingenious float equipped with a heavy charge of magnesium powder to supplement daylight. A diver operated the underwater camera and set off the magnesium charge with the aid of a battery. Equally good results were secured on 35mm transparencies by Dr. William F. Royce,⁶ Director of the Woods Hole Laboratory of the U. S. Fish and Wildlife Service, during a study of the spawning habits of lake trout made in 1941. Using a 35mm camera in a home-made watertight case and $\#5$ flashbulbs, he photographed the trout at night at depths down to 150 feet. Since these photographs were made in fresh water, no great care was necessary to insulate the flashlight connections.

The disadvantage of color photography in deep sea work is that it is impractical to develop the film in the small, hot and bouncing darkroom on a "moving platform"; the research vessel. No knowledge of the camera's success would be had until the ship has returned to port. Also, many other things besides photography are done on board such a ship. The darkroom probably will be in use every half hour to develop 10 to 15 foot long strips of oscillograph paper. Moreover, the lurching of the ship and the hurry of the occupant to get out for a breath of fresh air do not result in the clean darkroom conditions that manufacturers of photographic supplies regard with such fond affection.

As for infra-red photography, the few experiments that have been made did not indicate that the advantage of a greater depth of field balanced the extra trouble caused by this type of illumination.

Deep underwater photography has many possibilities, but they have not yet been fully demonstrated. The bottom photographs have shown that life is more abundant than was evident from hauls made by slow moving deep sea trawls. Even if no life is shown, the many tracks give evidence of its presence. Many of the bottom photographs are of geological interest. They have shown that the top layers of the sediment are extensively worked over by burrowing organisms. While bottom samplers bring up only a small portion of an area, a small coring tube, attached to the bottom camera, supplies a bottom sample plus a view of the area where it was collected. The bottom sample also may aid in the identification of objects in the photograph. The deepest photograph made at a depth of $31\frac{1}{2}$ miles showed some curious objects that were believed to be either sponges or manganese nodules. Microscopic study of the attached bottom sample showed some sponge spicules. Owen also made some stereographic photographs by placing two cameras on the pole and obtained a fine view of a steep wall off Newfoundland.

Use in Salvage Operations

The camera's use in salvage operations is obvious. During the war Dr. Maurice Ewing, now of Columbia University, and his underwater photography group identified many shipwrecks along the coast and found one destroyed

German submarine. Of the greatest interest, perhaps, may be the possible identification of a mysterious sound scattering layer found everywhere in deep ocean, during the past few years. Echoes returning from a depth of about 1500 feet during the daytime and from shallower depths at night indicate the presence of concentrations of animals. It has been suggested that certain small shrimp, which are known to move in such a way, or perhaps squid, cause the scattering of sound waves. However, it may well be possible that fish feeding on the shrimp are producing the echoes. It is extremely difficult to tow a net at such depths in deep water and it is hoped that a repeating camera may show what is there.

Need of Census

A census of larger marine forms in the ocean might be taken by an easily handled and well operating underwater camera. Nets are selective and we have no idea how effective they are. If a repeating camera could be placed on top of a trawl net, we might be able to see if all available fish are caught in the net, or if many escape. Or, the camera might be attached to a sled and towed across a fishing bank to make a census of bottom fish. In this case it would have to be designed in such a way that the clouds of sediment, raised by the sled, would not interfere with the field of view. Last summer, large areas off the Massachusetts coast were searched by dredge and underwater camera to discover commercial quantities of sea scallops.

Are fish frightened by the flash? Dr. Harvey used a luminescent lure in front of his camera, in hopes of attracting deep sea fish, but was not successful. The Ewing bottom camera, however, has photographed many fish and other sea animals which do not appear to be frightened, either by the flash or the approach of the camera. It may be that the sound and vibration of the motor driving Harvey's camera had a frightening effect. On the other hand, life at mid-depths, except perhaps in the scattering layer, may be more scarce. This is one of the things we do not know. Perhaps, future work with repeating underwater cameras will literally throw some light on this question.



Deepest underwater photograph on record. Photographed by D. M. Owen at a depth of 3½ miles (3000 fathoms) Lat. 30 37' N and Long. 50 07' W. Southeast of Bermuda. Lens distance 9½ feet, one number 5 bulb at 3'8", exposure 1/50th second at f/11. The objects may be sponges or manganese nodules. Some sponge spicules were found in the bottom sample obtained with the photograph. The field of view from left to right is 6 feet.

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An example of underwater photography as an aid in studying deep sea animals in their environment. Generally the sea spider, which is about 28 inches across, and the brittle stars shown in this photograph by D. M. Owen are damaged when they are caught in trawls. Photographed 6000 feet below the surface at Lat. 39 46' N and Long. 70 50' W. Lens distance 9½ feet. One number 5 bulb at 3'8". Verichrome film exposed 1/50th second at f/10.

Copying the Black-and-White Print[†]

R. GILLIAM RUDD*

THE PRACTICE of copying photographs has been employed for various reasons almost since the advent of photography itself. In recent years improvements in sensitized materials and in the design and manufacture of lenses have made it possible to produce a copy print of some photographs which are virtually indistinguishable from the original. It does not follow that a perfect reproduction, a facsimile, can be made from all photographs. Paradoxically, it is more difficult to reproduce a high-quality photograph than it is to reproduce a poor one. An old, faded, or yellowed print, Figure 1, can be reproduced with an actual enhancement of quality, but the glossy commercial-type photograph, or any print with a long density scale, suffers from a loss of quality in the copying process. If an exterior sunlit scene of a luminance scale 160 or greater can be satisfactorily reproduced with some specific negative and positive materials, why is it not possible to use these

same materials to reproduce a photographic print with a luminance scale of only 40 or less? The answer will be obvious when we evaluate the steps of the process and plot the results graphically.

The copying of continuous-tone photographs differs from other applications of photography in that it is possible to compare the copy print directly with the original print, since the two prints may be virtually alike in every respect and viewed side by side under identical lighting conditions. In viewing an original photograph, the evaluation must be largely subjective, since the original subject may not be available for comparison, and in any case, it is usually colored, three-dimensional, and larger or smaller than the photograph. It is possible to measure the actual luminance scale of a scene with laboratory instruments and to evaluate the reproduction objectively, but this has its difficulties and is seldom done for other than investigational purposes. The relationship between the density scale of a photographic print and the luminance scale of the scene may and does vary from one scene to another, or even from one print to another made from the same negative. The amount of compression or expansion of the density scale of an original print is determined primarily by the luminance scale of the scene or object, and to a lesser degree by other factors.

The variation in the quality of prints made from the same negative is largely influenced by the judgment of the individual performing the printing and processing steps, and his judgment may be conditioned by many variables such as the spectral quality and intensity of the illumination under which he examines the print, the surface characteristics of the paper while wet, and the sequence in which he prints negatives of varying subject types. This is not the case in the copying process, where generally the desired result is a facsimile, and the two-dimensional original is available for comparison. Differences in quality or tone

[†]Delivered at the PSA Convention, St. Louis, Missouri, 20 October 1949. Received 21 April 1950.

*Communication No. 1342 from the Kodak Research Laboratories, Rochester, New York.

In accordance with the recommendation of the Colorimetry Committee of the Optical Society of America (see J. Opt. Soc. Am. 34, 245, 1944), the term *illuminance* is used in this paper instead of *illumination* to specify the amount of light incident on a surface. *Luminance* is used instead of *brightness*.

The following terms are also used:

Original subject: A scene or object.

Original negative: A photographic negative of a scene or object.

Original print: A paper positive printed from an original negative.

Intermediate print: A paper positive printed from the original negative specifically for copying.

Best visual print: The most satisfactory print from an aesthetic viewpoint.

Copy Negative: A camera negative of an original or intermediate paper print.

Copy Print: A paper print of the copy negative.



Figure 1. Improvement in quality by copying a faded print of 1858 with a high-contrast negative material, Kodak Contrast Process Ortho, Wratten No. 49 filter, developed in DK-50, 3½ min., 68° F. Original courtesy of George Eastman House, Inc.



Original



Copy

Figure 2. Almost perfect facsimile reproduction made from a short density-scale original which has neither extreme shadow nor highlight gradation. Reproduced on Kodak Commercial Film, developed in DK-50, (1-1), 3½ min., 68° F.

reproduction are, therefore, immediately obvious. In the reproduction of a photographic print of an average density scale, these differences usually appear as a loss of highlight detail (contrast) and a loss of shadow contrast. When the contrast of either the shadows or highlights is preserved, the contrast of the middletones is excessive. The middletones can be reproduced faithfully if good reproduction of the highlights is not required, or if the picture contains no highlights. Figure 2 is an example of a photograph containing mostly middletones.

In general, the distortion of tone reproduction in the copying process is largely a cumulative result of the inherent characteristics of sensitized materials, particularly of the paper, the optical properties of the photographic lens, and the technique employed in the copying procedure. Ideally, the lens selected should be one designed for process work, coated, inspected regularly for dirt and smudges, aligned optically with the copy and the film, and used at its best working aperture (adequate field coverage and the maximum tolerable diffraction). Use of apertures smaller than the optimum impairs the image definition, and consequently the picture quality. The camera must be of rugged construction to maintain the lens and film precisely parallel, and the filmholders should be designed to hold the negative material flat in the focal plane. Uniform illumination of the copy is necessary but is often neglected. Precise control of the factors in negative development—time, temperature, agitation, exhaustion of the developer—is as important as any other step in the process. In the printing operation, the choice of adequate equipment and its careful maintenance is no less important.

In a commercial plant where copy negatives are routinely made, it is possible to establish a standard procedure which can reduce the variables to a minimum. On the other hand, those photographers who are not professionally engaged in copying may not have adequate equipment or sufficient skill. The use of equipment not designed for process photography, or the failure to follow an exact procedure, may

introduce distortions of tone reproduction other than those which are an inherent part of the conventional process. The loss in print quality is relatively great for only small deviations from an established photographic technique. The characteristic curves of the camera negative and the sensitized paper, together with the related tone reproduction curves, clearly illustrate the limitations of the copying process and explain why distortions other than those normal to the process degrade the reproduction in general.

In Figure 3A, the density scale of the original photographic print including the unexposed border is 1.70. Nevertheless, it is virtually impossible to obtain a paper facsimile reproduction of it with the available materials and conventional methods. It is a suitable subject to demonstrate the limitations of the copying process, as the centers of interest are composed of large dark areas containing what is commonly termed "shadow detail," and contrasting light tones of fine gradation blending with the middletones. Minor changes in the highlight contrast or the highlight-middletone relationship produce a seemingly disproportionate change in the quality of the reproduction. But a corresponding loss of contrast or detail in the shadows does not subjectively degrade the quality of the copy to the same degree for two reasons: (1) The eye is little sensitive to contrast differences at relatively low illuminance levels (normal room illumination). (2) The lack of detail in a shadow area may suggest to the viewer only an absence of light.

In Figure 3 a calibrated gray scale is attached to the original print to be copied to serve as a control and to aid in plotting the steps of the copying process. In all of the preliminary tests, a series of paper gray scales were positioned in random patterns on the large print, from which a family of curves was plotted to establish a representative characteristic curve of the negative, thereby compensating for a possible lack of uniform image illuminance. The curve of the negative of the gray scale made on Kodak Commercial Film, developed in Kodak DK-50 Developer



Figure 3. Areas in the print identical in density with steps in the gray scale are indicated. Tone reproduction curve is plotted from density values of gray-scale steps in reproduction.

(1-1), $3\frac{1}{2}$ minutes, 68°F. , is plotted in this manner in the lower right quadrant of Figure 4 and differs from a sensitometric characteristic curve of the negative material in that flare of the camera lens system, which lowers the gradient of the negative, is included. In making the copy negative of the print, the densities of the original paper gray scale serve as a log exposure scale for the copy negative. These densities are plotted along the base axis of the lower right quadrant of Figure 4. The darkest tone of the paper scale at the optimum negative exposure for a long-density-scale original print is reproduced at *A* on the toe of the negative curve, and the lightest tone in the print is reproduced on the straight-line portion of the curve at *C* and not on the shoulder. Under this particular set of conditions, the density range of the paper gray scale (1.70) is compressed in the negative to a density range of 1.22, the difference between the minimum density, *A*, and the maximum density, *C*.

The characteristic curve of the copy print is determined by enlarging the copy negative of the paper gray scale and plotting the reflection densities of the steps of the copy print against the densities of the corresponding steps of the copy negative. The flare characteristics of the enlarging system are thereby included. The characteristic curve of the copy print as determined by this method is plotted in the lower left quadrant, Figure 4. The densities of the copy negative serve as the log exposure scale for the paper, and with such an arrangement the relationship of the densities of the copy negative to the densities of the copy print is easily traced. In projecting the copy negative in the enlarger, the minimum density, *A*, of the negative transmits most of the incident light and produces the maximum density on the paper at or near the shoulder of the paper curve, *B*. Conversely, the maximum density of

the negative, *C*, produces the minimum density on the paper, *D*.

In the upper right quadrant, the reflection densities of the copy print of the gray scale are plotted along the vertical axis and the densities of the original gray scale along the horizontal. The resulting curve is the tone reproduction curve of the paper gray scale and a deviation from the diagonal indicates the distortion of tone reproduction and its magnitude. The reproductions of several steps of the gray scale are traced by the dotted lines. *E* is the point of intersection of the extension of the lines from points *A* and *B* to the upper right quadrant by the graphical construction indicated. Similarly, *F* is the intersection of the lines extended from *C* and *D*. The density scale of the original gray scale, 1.70, is compressed to a density scale of 1.52 in the reproduction. The minimum density of the copy print is higher and the maximum density lower than the corresponding steps of the original gray scale.

In Figure 3, the selected density areas in the original photographic print which match the steps of the original gray scale are indicated by the connecting lines. The tone reproduction of these related densities is plotted in the upper right quadrant of Figure 4.

At low densities, the tone reproduction curve lies above the diagonal, which is to say, that the density of the reproduction at that point is greater than the corresponding highlight area of the original print. While the difference appears to be small on the curve, the actual visual difference is substantial. The lines coincide at some values, but the significant fact is that the highlights have a higher density and less contrast than the original, which explains the terms often used to describe copies, "no life," "no sparkle," "lacks brilliance," "flat-looking." In the middle-tones, the reproduction is almost linear, since the negative and print curves have straight lines throughout this range, or are more nearly complementary. In the dark areas, the loss of contrast and the reduced maximum density are evident. From aesthetic considerations, this distortion of tone reproduction in the dark tones is considerably less objectionable than the loss of highlight contrast and detail.

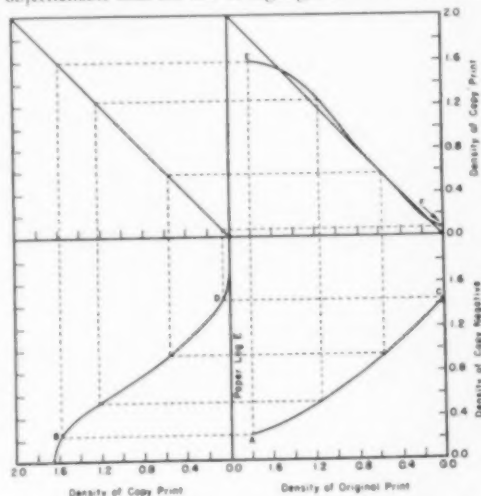


Figure 4. Tone reproduction curve of the photographic copy of Figure 3 plotted from a calibrated paper step tablet attached to original print. Deviation from diagonal indicates distortion of tone reproduction. For example, the original density of 1.8 (*A*, in lower right quadrant) is reproduced at density of 1.6, upper right quadrant.



A



B



C



D

Figure 5. A print of lower contrast (compressed density scale) is more suitable for reproduction than the best visual print, D copied from B is more like A than C, which was reproduced from A.

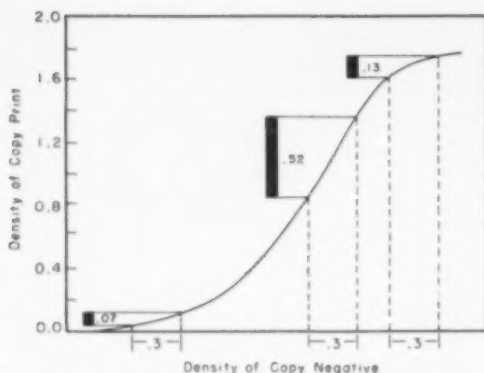


Figure 6. Equal exposure increments do not produce proportionate increases of density throughout the usable paper exposure scale. Tone reproduction distortion is unavoidable when the density scale of the original equals that of the paper on which it is reproduced.

As was stated earlier, the lack of detail in the dark portions of some types of reproductions may indicate to the viewer only an absence of light in the original scene, but the lack of gradation in the highlight tones produces an unnatural effect.

The distortion of tone reproduction in a copy made with conventional materials is very real. From the reproduction quadrants, the reason for the degradation is quite clear, and the result of the distortion is evident when the reproduction, Figure 5C, is compared with the original, Figure 5A. The loss of quality is more obvious in an 11x14 in. photographic print than it is in the smaller reproduction illustrated in Figure 5. Because of the limitations of the halftone process, the differences in quality between the original on the left and the reproduction exhibit to a lesser degree the actual differences observed in the photographic prints. The loss of highlight contrast has changed the rendering of the highlights appreciably—a loss which can be traced to the shape of the toe portion of the print. The typical sloping toe of a photographic paper is illustrated in Figure 6. It can be seen that the highlights, the minimum density components of the picture, are reproduced on the toe where equal increments of exposure do not produce a proportionate increase in density as they do at higher densities. For example, a log exposure increase of 0.30 in the toe portion increases the density only 0.07, but in the middletones where the gradient is higher, the exposure falls on the straight-line portion of the paper curve, and an exposure increase of log 0.30 increases the density 0.52. The gradient of the toe is lower than the gradient of the straight-line portion. If a paper of a contrast grade is selected on which the middletones are accurately reproduced, the highlights obviously will be too flat, and conversely, if the highlight contrast of the original is retained by choosing a more contrasty paper, the middletone contrast will be too high.

The highlight-middletone relationship cannot be changed without altering the reproduction of the shadows, the maximum density components of the print. Like the highlights, the shadows are reproduced on the non-linear portion of the paper curve, the shoulder, and, therefore, may show a corresponding loss of contrast, or a loss of detail. The gradient of the shoulder, like the gradient of the toe, is lower than the gradient of the straight-line portion. A 0.30 log exposure increases the density 0.13 in the region of the shoulder indicated, compared to the 0.52 increase

in the middletones. For the most satisfactory rendering of the shadows with the negative materials now available, the maximum densities of the original print, the shadows, should fall on the straight-line portion of the copy negative curve so as to obtain changes in negative density, which are proportional to the reflection values of the darker areas of the print. Distortion of the shadow reproduction then would be entirely attributable to the characteristics of the paper. But perfect shadow reproduction is possible only when the density scale of the print is considerably less than the normal 1.7. Figure 2 is an example of the type of photograph which can be reproduced satisfactorily. The reproduction on the right is quite acceptable and the quality of the reproduction is evident in its tone reproduction curve in Figure 7. The density scale of the print is reproduced on the straight-line portion of the paper curve as the negative density scale, 0.9, is not greater than the straight-line portion of the paper curve.

In copying the short-density-scale, high-key photograph, a print composed primarily of light areas with no dark tones, it is difficult to retain the contrast relationship of the light tones when the minimum density of the reproduction, the white, is printed no darker than the minimum density of the original print. The loss of highlight contrast is illustrated in Figure 4, where it is shown that highlights are reproduced on the toe of the paper curve.

When an original negative of a high-key subject is available, it is possible to make a darker print which is more suitable for reproduction by the photographic or photo-mechanical processes. The darker print will be decidedly less interesting, since the highlights will be "muddy," but its density scale is expanded because the toe portion of the paper curve is not used, and all the tones are printed on the straight-line portion of the paper curve where the gradient is higher. The lighter, more pleasing print may have a density scale of 0.60. When printed darker on the same grade of paper, the density scale is increased to 0.95, and the contrast relationship of the tones corresponding to the highlights is greater. In copying this darker intermediate print, the copy negative is exposed so that the density scale of the print is reproduced on the toe of the negative curve,

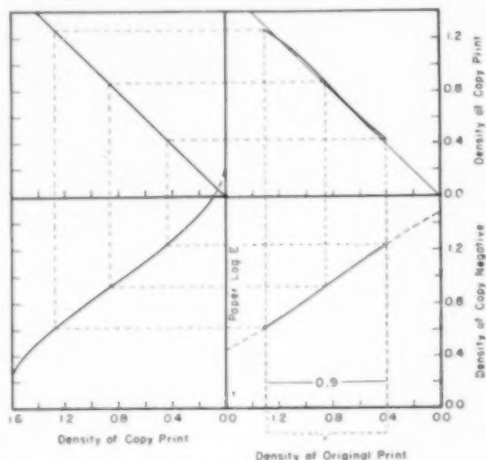


Figure 7. The middletone short-density-scale print which has no extreme light or dark tones is reproduced with only minor distortion as the reproduction involves the straight-line portion of negative and paper curves.

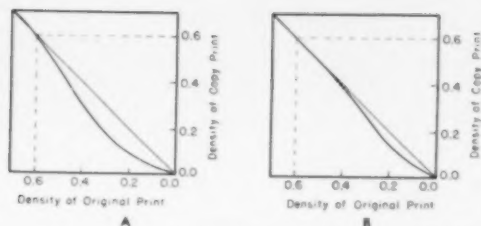


Figure 8. A high-key intermediate printed denser than the best visual print is more suitable for reproduction. A is tone reproduction of the more pleasing print; B, tone reproduction of darker print. "Density of Original" values in B are actual density values of lighter print, A.

rather than on the straight-line portion, by reducing the negative exposure to a critical minimum. Since the toe of a negative curve is somewhat bow-shaped, the gradient progressively rises until the straight-line portion is reached. The extreme light tones are, therefore, reproduced at a relatively higher contrast on the negative than the more dense areas of the print, which are copied on the extreme toe where the gradient is lower.

In copying the lighter but more pleasing print, the loss of quality is unavoidable as the light tones can be reproduced only on the toe of the paper curve if the minimum density of the highlight of the original print is retained in the copy print, Figure 8A. The density scale of 0.60 remains the same, but the highlight contrast is reduced. The highlight contrast of a reproduction made from the darker print more closely matches that of the original lighter print, Figure 8B.

When a high-key photographic print, or any print which contains highlights but no dark shadow areas, is to be reproduced either photographically or photomechanically, the best reproduction can be made from a print exposed so that all tones (the entire density scale) are reproduced on the straight-line portion of the paper curve. However, a normal lighter print is also required as a guide, so that the reproduction from the darker print can be held at approximately the same density and contrast as that of the lighter guide print.

It is evident from the illustrations that the copying materials, the equipment, and the methods available today, are capable of producing reproduction of many photographs which closely match the quality of the originals. In employ-

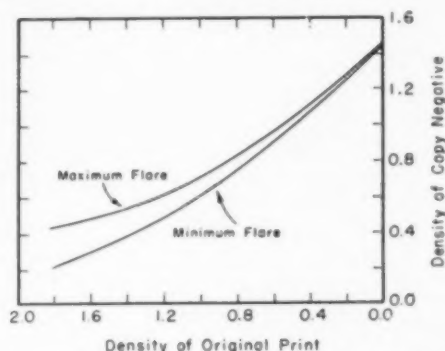


Figure 9. Minimum flare curve plotted from the copy negative of a print surrounded by black paper; maximum flare curve from the copy negative of a print surrounded by white paper.

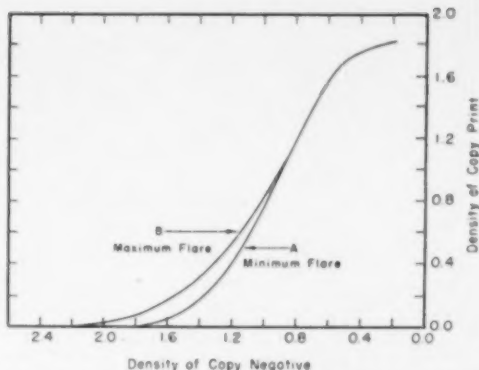


Figure 10. Flare in projection printing degrades reproduction of light tones. Curve B shows the change in shape of the paper curve accompanying removal of framing mask from negative carrier when negative is considerably smaller than negative carrier.

ing conventional copying methods in reproducing a photograph of a moderately long brightness scale, a sacrifice of highlight quality is to be expected. Added distortions of tone reproduction resulting from the neglect of equipment maintenance, or the abuse of copying principles, even though they may be small, generally degrade the copy to a degree which may not seem consistent with a minor violation of photographic technique.

Lens flare influences the shape of the toe of the negative curve, and consequently affects the reproduction. Flare may be defined as the non-image light at the film plane which arises from the intersurface reflections between the glass-air-lens surfaces, and from reflections within the lens mount and within the camera or the enlarger, as the case may be. While this light is non-image-forming light, it, nevertheless, contributes to the image, as the density of the print is affected by the quantity of the flare light. Flare is not a constant factor with a given lens system and camera. It varies from one scene to another, depending upon the luminance scale of a scene and the area relationship of the luminance values, and with the environment. The flare factor of the camera system is determined by the ratio of the luminance scale of the object to the luminance scale of the image. It may be high for a scene with an extreme luminance range, and small for a high-key subject, even though the actual total flare in the latter case is greater. In the copying process, flare other than the inherent flare of the lens system is largely controllable by the photographer. The physical condition of the lens is dependent

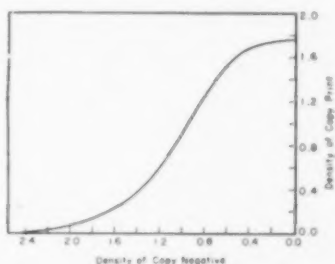


Figure 11. A representative characteristic curve of a projection-type paper as determined by projection printing.

upon the care it has received. The presence of dust, scratches, fingerprints, smudges, and the opalescent coating with which exposed glass surfaces are eventually coated, is responsible for a higher flare factor than the combined inherent flare properties of a well-designed lens and camera. Surprisingly, an unclean lens is much more common than a clean lens, and the amount of dirt that collects on it is even more surprising.

Light falling on the lens from extraneous sources, such as light-colored walls, near-by windows, and the direct rays from the copy lights, is a second source of flare no less common than the dirty lens. A properly designed lens hood helps to shield the lens and eliminates flare from these sources, but to reduce flare to a minimum, the print must be attached to a black copyboard which is considerably longer than the print itself. All lights but the copy lights should be extinguished. By replacing the black copyboard with a white one and leaving other factors, including exposure, constant, the shape of the camera negative curve is changed appreciably, as seen in Figure 9. An increase in flare is accompanied by an increased loss of shadow contrast.

The same general principles of flare apply in making projection prints from copy negatives. Camera flare lowers the contrast of the shadows. Flare in the enlarger degrades the highlights, a most undesirable factor, because a slight loss in highlight rendition produces a substantial loss in the photographic quality of the reproduction. The effect may be demonstrated by making two enlargements from a negative step tablet which is substantially smaller than the enlarger negative carrier. One print is made with the negative framing mask positioned so that only the light transmitted by the step tablet reaches the lens. A second print is exposed with the mask removed, permitting other than image-forming light to be transmitted to the lens. The change of the shape of the toe portion of the paper curve of the print by the introduction of flare is seen in Figure 10. The so-called "muddy highlights" of projection prints in many cases may be traced to a dirty enlarger lens or to the lack of framing masks in the negative carrier, or to both.

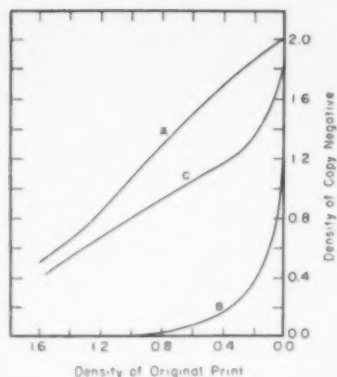
The quality of the reproduction then is dependent upon many variables, most of which fortunately are under the control of the photographer. How can the quality of a reproduction be improved? The use of crossed Pola-Screens effectively increases the luminance scale of a photographic print, but this increase is partially compensated for by the slightly diffuse nature of the Pola-Screen which adds flare to the toe of the negative curve. The advantages of the screens in eliminating reflections, fine abrasions, and the pattern of surface texture outweighs the slight loss in tone reproduction induced by the increased luminance scale.

Figure 12. Hold this side of graph at the bottom, and view figure by transmitted light. The theoretically perfect negative curve is a mirror image of paper curve on which it is to be printed. It precisely compensates the paper curve and therefore compensates for low contrast of the toe end shoulder of the paper curve.

Density of Original Print

Density of Copy Negative

Figure 13. A modification of the Person Process applicable to copying. A is principal negative curve (shadows and middle-tones); B, high-light negative curve. Effective curve C is calculated by combining a fraction of the transmission of each curve, the fraction, $1/14$, being the printing exposure ratio of the two negatives.



When an original negative is available, a print can be made from it which is more suitable for copying than the print which may be more satisfying in appearance. The print quality of the original photograph, Figure 5A, was achieved using the devices of dodging, diffusion, and even a two-stage development. The original, viewed under sufficient illumination, has a rich quality that sets it apart from the ordinary print. Unfortunately, it has a density scale of 1.7, which exceeds the range that can be successfully copied with conventional materials. In printing the same original negative on a paper of lower contrast, the density scale is reduced to 1.45, Figure 5B, a range which can be reproduced with less distortion. The highlights of the shorter-density-scale print are printed to a higher density to increase their contrast relationship, and the shadows printed no darker than is necessary to preserve the highlight detail. The reproduction of this lower-contrast print, Figure 5D, more closely matches the quality of the higher-contrast print, Figure 5C. The reproduction of the high-contrast print is not as satisfactory. From this we can conclude that in making a print to be reproduced by the normal photographic or halftone process, the original print should have a luminance scale not exceeding 1.45. This can be accomplished usually by using a somewhat lower contrast grade of paper than the normal, or by developing the paper in a less contrasty developer.

The reproductions of prints of a relatively long luminance scale, as we have seen thus far, cannot be called facsimiles because of the obvious differences in the luminance values of the original and the copy. There is a method whereby facsimiles or near-facsimiles can be made by the use of two camera negatives, one of higher density and slightly higher contrast than the normal copy negative, and one of low density but extreme contrast. The two negatives are printed by contact or projection in sequence and in registration at a definite exposure ratio. This is a modification of the Person Process. With careful control it is capable of yielding nearly perfect objective tone reproduction. In the copying process, perfect tone reproduction can be realized only when the products of the slopes of the curve of the negative and the printed characteristic positive curve, as determined by the printing method used, equal unity at corresponding points throughout the usable range. The ideal negative curve then is a mirror image of the print curve rotated 90 degrees. Figure 11 is a representative characteristic curve of Kodak Kodabromide F-2, as determined by projection printing. Now, if we turn the page, rotate it 90 degrees, and view the diagram by transmitted light, we see the theoretical negative for perfect

tone reproduction, Figure 12. There is no one negative material available today that has such a curve, but it is possible to synthesize an acceptable curve by the use of two different types of negatives. One, the principal negative, is developed to a gamma of 1.0 and the other, a high-contrast highlight negative, is exposed and developed to obtain a maximum density of approximately 1.2. Glass plates are substituted for the more common film since the difficulties associated with the precise superimposing of enlarged images are considerably reduced. The Kodak 50 Plate, which is similar in characteristics to Kodak Commercial Film, is a suitable material for the principal negative. Curve A, Figure 13, is the camera characteristic curve of the plate developed in DK-50 (1:1) for 6½ minutes at 68° F., with continuous agitation in a tray. The camera exposure is adjusted in the case illustrated so that the maximum density is 2.0 and the minimum density 0.55. It is significant to note that the toe of the curve is not used.

The auxiliary or highlight negative is exposed on a Kodak Kodalith Ortho Plate. The speed of this plate is approximately one tenth that of the Kodak 50, when developed in the standard Kodalith Developer modified by the addition of one part of Kodak SDR-1 to two parts of Solutions A and B. The developing is extremely critical and depends largely upon the inspection method rather than upon the time and temperature procedure. When the Kodalith Plate is correctly exposed, a faint image is distinguishable in safelight illumination at the end of two minutes and continues to increase slowly in density until a rapid and marked increase takes place at the end of approximately 3½ minutes. It is at this critical stage that the plate is removed and immediately immersed in a stop-bath to arrest development. After fixing, the low-density image is brownish and its effective density is therefore greater than the visual density. The curve of the negative, B, Figure 13, is determined by reading the densities through a blue filter. As the two negatives are not printed at the same exposure ratio, the effective curve is calculated by combining that fraction of the transmission of the highlight curve with transmission of the principal negative curve, the fraction being determined by the printing exposure ratio. The formula for calculating the effective characteristic curve is:

$$T_p + \left(\frac{E_H}{E_P} \right) T_H = T_e$$

where

- T_p = transmission of principal negative
- T_H = transmission of highlight negative
- T_e = transmission of effective negative
- E_H = printing exposure time of highlight negative
- E_P = printing exposure time of principal negative.

The exposure ratio of highlight exposure to principal exposure is of the order of one to fourteen. Relatively long exposure times are essential to maintain the ratio accurately.

The negatives must be carefully registered to preserve definition in the print. This may be facilitated by mounting the original on a white card only slightly larger than the print. On this white card, a narrow black line is drawn on all four sides so that they intersect at the corners. This provides a sharp line image which may be easily traced on the enlarging easel. With the principal negative positioned in the enlarger, the movable parts are firmly secured. A sheet of ordinary white paper somewhat larger than the projected print is taped carefully on the paper masking board, and the masking board is securely taped in place once it has been properly located with respect to the projected image. The negative image of the black line, which is, of course, a white line on a black background, is traced with a pencil with a point no wider than the image



Figure 14. Prints exposed from two negatives may vary in density if the order of exposure is reversed. In print A, the highlight negative was exposed 6 seconds and followed by the principal negative exposure, 86 seconds. For B, the order of exposure was reversed.

line. A lack of registration in the subsequent printing steps is easily detected and readily corrected. The sensitized paper is carefully positioned for each exposure with three fixed aligning pins, two along the length of the paper and one centrally along the width. After the principal negative is projected, the exposed paper is removed from the masking board and the highlight negative substituted for the first negative. The tape holding the masking board is removed so that the board can be moved about to locate it properly for accurate registration. When the registration pencil-lines, which are traced on the paper secured to the masking board, coincide with the projected image of the ink line, drawn on the original photograph, the line will virtually disappear and the images in the final print will be precisely superimposed. The masking board is again taped securely, the partially exposed paper replaced, carefully positioned, and then re-exposed. The order of exposing the negatives must not be altered once the ratio of exposure times is established, as a marked difference in density of the print may result. It is another one of those instances where the sum of the parts is not equal to the whole. The effect is illustrated in Figure 14. In print B, the principal negative was exposed for 86 seconds and the highlight negative 6 seconds. In print A, the order of exposure was changed but nothing else. The highlight and principal negatives were exposed for the same exposure times as before. In all other examples, the principal negative was exposed first and followed by the highlight negative exposure.

If, after processing, the print appears to be too dark or too light, the usual compensation in exposure is made, but without varying the exposure ratio of the two negatives. It is difficult to compare the quality of the wet print

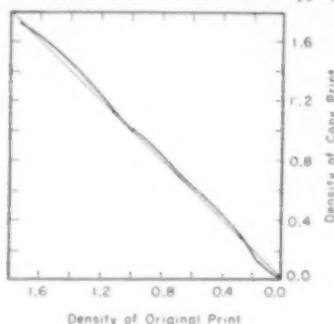


Figure 13. A long-density-scale photograph or any print containing light tones which is copied by the modified Person Process, more nearly approaches facsimile reproduction than a print reproduced by the normal copy methods. Compare above reproduction with Figure 5C.

with that of the original as the wet print darkens appreciably on drying. If a close match is required, the wet print should be printed slightly lighter than the original. If your efforts are reasonably successful, the reproduction and original should be identical twins, alike but with some dissimilarities. The reproduction, Figure 15, does not match the original perfectly, but it is quite close to a facsimile according to the actual tone reproduction curve, plotted not only from the control paper gray scale, but also from the various density areas of the prints, Figure 16. The reproduction in general is superior in every respect to those made by the conventional but simpler methods. The extreme highlights are actually too contrasty for objective reproduction, but subjectively, the extreme highlights are seldom too contrasty as the quality of the reproduction is actually enhanced.

In summary, the photographic print of a relatively long density scale is reproduced with some distortion of tone reproduction with the standard copying materials and methods because of the inherent characteristics of the negative and positive materials. If the original negative of a relatively long luminance scale subject is available, a print can be made from it which is more suitable for copying.

Figure 16. Tone reproduction curve plotted from copy produced by modified Person Process is approximately parallel to diagonal throughout entire density range. Compare with Figure 4, upper right quadrant.



A negative of this type is printed on a lower contrast grade paper than the normal so that the density scale is compressed and is less than that of the best visual print. But the high-key subject to be copied is printed with greater contrast by increasing the printing exposure so that all tones are reproduced on the straight-line portion of the paper curve. The resulting print is darker and has an expanded density scale. In a similar manner, the density scale of a low-key subject to be copied is expanded by reducing the exposure below the normal to avoid the use of the shoulder of the paper curve. In either case, those prints which are less pleasing than the best visual prints make better reproductions.

The photographer then has methods which enable him to prepare master prints modified by various devices to make them more suitable for the intended purpose. Where cost and time are not primary considerations, but quality is, those photographs of a long density scale can best be reproduced by the modification of the more complicated Person Process method.

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A cordial invitation is extended to everyone interested in photography, either as a science or an art, to become a member of the largest organization of photographers in the United States. Founded in 1919 as the Associated Camera Clubs of America, the PSA today has individual and club members in every state and practically every country of the world. It is composed of beginners, advanced amateurs, technicians, professionals—in fact every branch and phase of photography is represented within its ranks.

As a national organization dedicated to the sole purpose of promoting the arts and science of photography, PSA has a great deal to offer. As a member you will receive 12 issues of *PSA JOURNAL*, jam-packed with substantial, enduring, useful, important articles covering every branch, phase, facet, and use of photography—material that cannot be obtained elsewhere. Emphasis is placed on fine reproductions plus latest developments in pictorialism and technology. *PSA JOURNAL* is a magazine you will enjoy and can hardly afford to miss. It may be obtained only through membership in PSA.

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So, and briefly, PSA members . . .
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- To raise standards and develop a keener appreciation of all types of photography among members.
- To increase public use, interest in and appreciation of photography.
- To make available to PSA members, through text and illustrations in the exclusive official magazine, "*PSA Journal*", and its supplements, the latest technical and non-technical photographic knowledge.
- To encourage and focus national interest on contributions to photography by individual photographers, camera clubs and photographic organizations.
- To honor each year, a number of photographic workers who have achieved unusual distinction in their specialized fields.
- To act as spokesman for the combined opinions of a preponderance of American photographers.

The Photographic Society of America, Inc., 2005 Walnut Street, Philadelphia 3, Penna.

ON THE OPPOSITE PAGE, A NEW COVER FOR THE JANUARY 1950 ISSUE OF "PHOTOGRAPHIC SCIENCE AND TECHNIQUE" HAS BEEN PROVIDED. TEAR OUT AND GLUE TO YOUR OLD COPY.

Here Is A Special Opportunity

Whatever your field or special interest in photography may be, there is one group within PSA which invites your special attention. You may be a pictorialist, a nature or press photographer, a worker in the color processes or a cinematographer. Regardless of these special interests and divisional membership, you are benefiting by the work of the PSA Technical Division.

The Technical Division comprises a relatively small group of people who are actively promoting the basic and fundamental aspects of photography. Their efforts provide a firm foundation for the Society publications and the program of their activities highlights scientific and technical advances which benefit every divisional activity.

If your interests lie in the technical or scientific aspects of photography, you cannot afford to remain outside this group. Below you will find a listing of the more important divisional activities. These activities are directly established to fill your needs and your membership will permit their extension and enlargement.

Even though your special interests lie elsewhere, you will directly benefit by joining the Technical Division. These activities, now carried on by a small group of technically-minded photographers, deserve the support obtained through YOUR membership.

If you now belong to PSA and have other divisional affiliations—Broaden your support by also joining the Technical Division.

If you haven't joined any other division—Join the Technical Division and support this program.

The Technical Division

The PSA Technical Division is governed by an elected chairman, vice chairman and secretary-treasurer and an executive committee, composed of two representatives

from each of the local sections and the chairmen of the standing committees. A listing of its committees will give some idea of the scope of Technical Division activities: publications, education, exhibitions, honors, membership, program, publicity, standards, technical information, special awards, etc.

The activities of the Division center around its local sections, consisting of groups in Rochester, N. Y. (founded in 1935); Binghamton, N. Y. (1941); Cleveland, Ohio (1941); New York, N. Y. (1946); Boston, Mass. (1947); and Southern California (1947). Other sections are in the process of formation.

In addition to the quarterly technical supplement to PSA JOURNAL, *Photographic Science and Technique*, for which the Division is responsible, a Technical Bulletin is issued from time to time. The Division holds an annual exhibition, which, after showing at the PSA National Convention, is broken down into smaller exhibits and circulated throughout the country.

The Technical Division is responsible for photographic standards within the Society and represents and takes an active interest in the photographic committees of the American Standards Association on national and international levels. It makes several special awards each year and its Honors Recommendation Committee works with the Society's Honors Committee on honors in the technical and scientific fields.

The Division's Education Committee is embarking on a program designed to aid teachers of photography and its Technical Information Committee stands ready at all time to answer any technical questions or give assistance on technical matters. Its Program Committee arranges for technical papers at conventions and regional meetings and suggests technical programs for any local groups requesting them.

In general the PSA Technical Division acts as a clearing house for scientific and technical knowledge, performs general services to photographic technologists, and promotes the science of photography.

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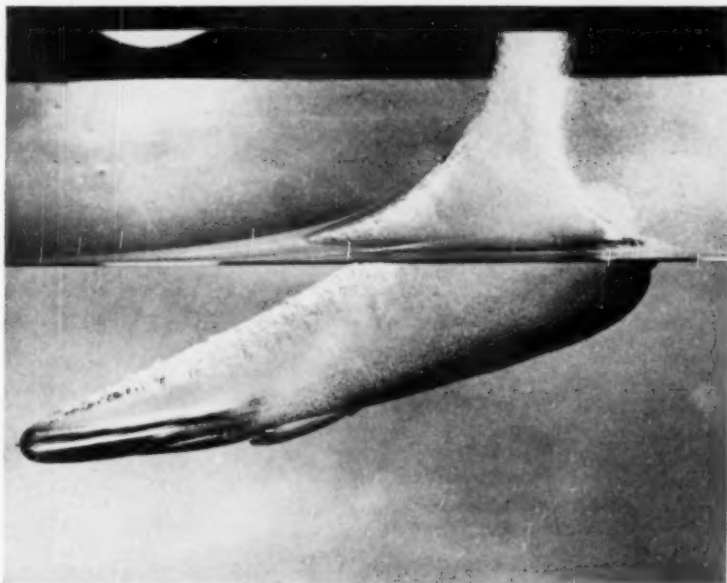
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Colored Lighting for Color Separations[†]

ERNEST P. TAUBES*

IN PRODUCING a full color illustration on a printed sheet of paper, four separate printing plates are usually employed. These plates are applied to the same sheet of paper in succession using registration marks to insure the proper positioning of the plates on the paper. Each plate in turn carries ink of a different color. The inks commonly used are Magenta, usually referred to as red; Cyan called blue-green or just blue; Yellow, and Black.

Due to the semi-transparent nature of the inks used in printing and the ability of the human eye to integrate adjacent colors into a different color, a wide variety of color sensations can be obtained by adjusting the proportion of three or four inks covering a particular area. This proportion is controlled by the size and distribution of the half tone dots in lithography and engraving and the depth of the etching in gravure.

The true reproduction of a colored original in printing is primarily dependent on how accurately each printing plate represents the relative brightness and spectral distribution of that particular color in the original. If the set of color separation negatives produced from the original present a true reproduction of the relative brightness and spectral distribution of each of the four colors in the original, the hardest part of the job of true color reproduction has been completed.

Black-and-white photography reproduces colors not as colors, but as a range of grays. The human eye is more versatile than the camera and can differentiate brightness, hue and contrast of different colors better than the camera does.

Depending on the emulsion used, the contrast between colors may be lost and some colors may not reproduce at all. Filters have been attached to lenses for years to change the color of the light transmitted through the lens and thus strengthen the reproduction of some colors or suppress others.

The ideal filter (Fig. 1.) would permit only one color to pass through the lens. However, even the best filters known today have a certain amount of overlap into the adjacent colors of the spectrum. See Figure 2. The amount of extraneous color reaching the emulsion is dependent on two factors. First the amount of the overlap of the filter transmission into the undesirable color and second the proportion of this color present in the light source used for illumination.

If this undesired color is emitted by the light source in a much greater proportion than the principal color transmitted by the filter, a comparatively large amount of foreign color will reach the emulsion even though the overlap of the filter into the adjacent color might be relatively small.

It was believed, therefore, that if the subject was illuminated with a light source having a high emission peak in the color desired and relatively little light in any foreign color, it would be possible to photograph without the use of filters at the lens and get better results.

The theory of using colored lighting for reproduction of color separation negatives has intrigued photographers in the printing trade for a number of years. As far back as 1921, a British patent¹ has been issued to Adrian Bernard Klein. The basic idea of the patent was to spread the light from an arc source into a spectrum by the use of a constant dispersion prism. The prism was rotatably mounted in front of a variable width aperture, so that the spectrum could be divided into three or more mutually exclusive sections. The selected portion of the spectrum was then collimated and projected onto the copyboard.

The method suggested by Mr. Klein would produce pure colors eliminating entirely the overlap inherent in even the best filter.

Subsequently, Herbert Bertling of Berlin, Germany received a U. S. patent² for the idea of using various vapors to produce monochromatic light. Thallium vapor, for instance, produces substantially monochromatic green light as does magnesium vapor. Neon, lithium and mercury vapors are also useful for this method. Mr. Bertling was not primarily concerned with the quality improvement inherent in the process of illuminating the copy with a special colored light. His chief concern was to reduce the high current consumption wasted in producing white light and then absorbing two-thirds or more of it away. His patent also considered the screening of residual unwanted wave lengths by the use of appropriate highly transparent filters.

Isaac Rodman received a U. S. patent³ in 1935 for the idea of using various light sources for color separations in a method where, for instance for the red separation,

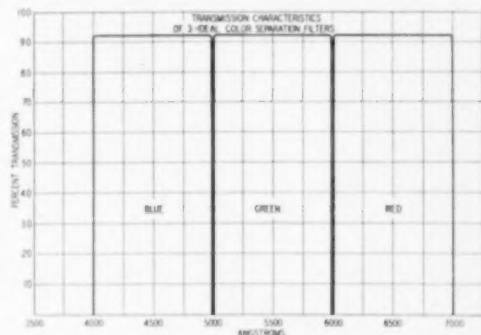


Figure 1. Transmission characteristics of ideal tricolor separation filters.

[†]Presented at the New York Technical Section meeting February 7, 1950. Received February 22, 1950.

*Microtonics Corp., New York, N. Y.

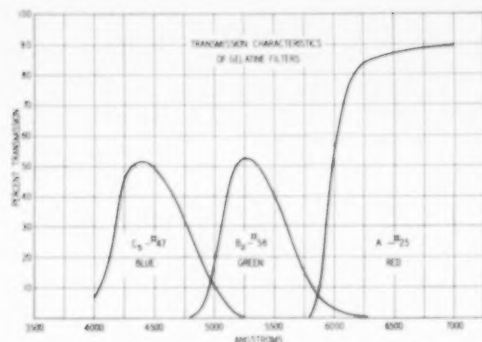


Figure 2. Transmission characteristics of tricolor separation filters used over camera lenses. Data by General Electric Company, Nela Park.

the light source would produce all colors except red. In this case pure mercury vapor arc whose spectrum lines included violet, blue, green and yellow, would be used. For the blue separation, he chose lights giving all colors but blue, such as a neon gas arc whose spectrum contains red, yellow and green lines.

He also suggested variations, such as producing colored lights with a filter over a white light source, or using lights depending upon the ionization of gases such as a clear glass tube with neon gas for the red lights, sodium vapors for yellow, green from special didymium glass tubes using mercury vapor, and blue from cobalt glass tube, also using mercury vapor.

All these early methods of producing colored light had various drawbacks which made them impractical for daily use.

However, the General Electric Company started experimenting with the use of fluorescent lights for color separation purposes, a few years ago, in their Research Lab-

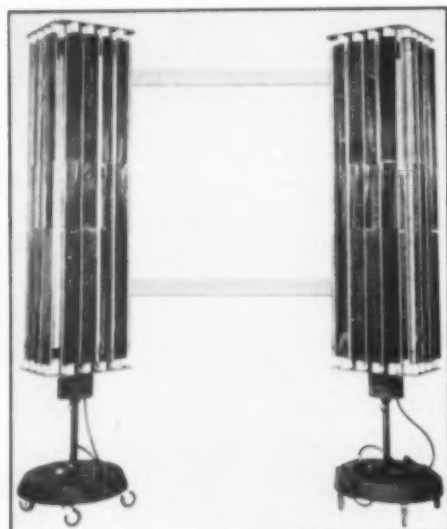


Figure 3. Copyboard lighting units each carrying four sets of four fluorescent lamps backed by reflectors and covered by gelatin filters.

oratories at Nela Park. This work was done under the supervision of R. E. Farnham, APSA, and with the cooperation of Andrew Balika and William Stone of the Copiflex Lithograph Company of Cleveland.

These lamps create their visible light through the excitation of fluorescent powders by ultraviolet energy. The color emission of these lights depends on the type of powder used and can be varied over a wide range of colors. The application of this principle proved to be highly successful for a number of photographic processes.

Fluorescent lamps can be divided into two categories: preheat, and instant starting types. The instant starting types have the advantage of permitting close timing of exposures.

The preheat lamps require a second or two for the cathodes to become hot and for the external starter to operate.

One form of instant-start fluorescent lamp, namely the slimline, has the additional advantage of small diameter, which permits efficient utilization of the light by a relatively narrow reflector. Thus, several of these lamps and their reflectors can be grouped together to form a compact unit of high light output.

In making actual color separation negatives, two additional components are used in conjunction with the slimline lamps. First, specially designed, polished reflectors to redirect and concentrate onto the copy board the light that would otherwise be wasted, thereby materially increasing the illumination, and second, color filters attached to the front of the reflectors which restrict the light emission to the particular band of color desired.

Therefore, the design of a practical color separation lighting unit using slimline fluorescent lamps, evolved itself into the following components (Figure 3).

- 1—A heavy cast iron base
- 2—A central support
- 3—A four-sided turret
- 4—Four sets of reflectors and filters.

The base carries four casters for easy movement and contains the electrical equipment. This equipment consists of a line cord to plug into any 115 volt 60 cycle outlet, two ballasts, a foot-operated On and Off switch, a toggle switch to connect two or four lamps—since for some purposes there may be actually too much light—and a socket to connect the power line to the unit.

The central support is slidably mounted in the base to permit the adjustment of the height of the lamps for various copyboards. It also acts as support and bearing for the rotating turret.

The turret is four-sided, each side carrying four lamps. Each set of four lamps emits a different colored light. The colors usually employed are: Pink, Green, Blue and White (Figures 4, 5, 6, 7). The turret also carries a turret switch, which automatically connects the correct set of tubes to the power line whenever that set faces the copyboard. An accurate indexing mechanism positions each set of lamps exactly in relation to the copyboard as the turret is rotated from color to color.

Each lamp has its own set of reflectors. These reflectors carry holding clips, so that they can be easily clipped on the lamps themselves. The reflectors are specially designed to redirect the light within an effective angle towards the copyboard. The clips permit the adjustment of the reflectors so as to direct the light onto the copyboard wherever required and making possible the even illumination of

large copyboards. Each reflector carries a guide channel along the edges to facilitate the insertion and removal of the filters (Figure 8). Each light unit is equipped with three sets of gelatin or plastic sheet filters: Red, Blue and Green. These filters restrict the light emitted from the tubes to a respectively narrow spectral band, thus eliminating overlap and insuring maximum color separation (Figure 9).

To get the full benefit of illuminating the copyboard with colored lights and thus eliminating the filters at the lens, it is obviously necessary to exclude as much as possible any extraneous light in the camera room during exposure. Any light emanating from a source other than the color separation turret lights and reaching the copy would be transmitted through the unfiltered lens and impair the quality of the separation.

Two identical lighting units are used, one on each side of the copyboard. The advantages over conventional carbon arc illumination obtained by the use of filtered fluorescent lights for the illumination of the copy, can be classified as follows:

- 1—Better control of tone values and sharper color separation, due to elimination of filter at lens.
- 2—Minimizing of pinpoint highlights.
- 3—Better rendition of surface colors in the copy.
- 4—Elimination of unwarranted contrast in the separations.
- 5—Separations better balanced.
- 6—More comfortable and cleaner operating conditions.
- 7—Considerable saving in initial installation and operating costs.

The following explanations seem to account for the advantages over arc light illumination enumerated above:

1—Better control of tone values and sharper color separations can be attributed directly to the fact that the light source used has a high peak of emission in the particular color range desired and comparatively very little light in any foreign color. Adding a filter to the light source reduces the presence of foreign colors reaching the copy still further, so that the presence of foreign colors is negligible.

Also, due to the fact that the light emanates from a comparatively large area and can be directed onto the copyboard by means of rotatable reflectors, the copy is evenly illuminated, thus minimizing all highlights.

Better detail is reproduced due to the even illumination of the copy and due to the removal of filters from the lens, which permits the lens to work at maximum sharpness and efficiency.

Another reason for improvement of image quality with colored lights is the cutting in half of the number of flare images, when the filter with its two reflecting surfaces is omitted from the lens. A recent strict test to evaluate the image deterioration caused by gelatine filters within the lens was made. With a copy density range of 2.0 the optical image was about 10% flatter in overall density range with the filter. This increased flare effect was apparent principally in the shadows. Frank Preucil referred to the result of this test in the December 1949 issue of *National Lithographer*.

2—Minimizing of pinpoint highlights is due to the even illumination of the copy. This tends to reduce all highlights and reflections. Also, the fact that the light emanates from a relatively large surface, contributes materially to the reduction of all surface highlights.

3—Better rendition of surface colors in the copy is very important where the copy has been retouched with certain semi-transparent pigments and other colors. When certain coloring materials are exposed to light sources generating a considerable amount of ultraviolet energy, these colors fluoresce and are thus picked up by the lens even through the covering layers. Slimline lamps emit negligible amounts of ultraviolet energy and therefore, much better reproduction of surface colors is achieved.

4—Elimination of unwarranted contrast in the separations is due to even illumination of the copy with one color only, which eliminates the glare produced by large white areas adjacent to or surrounding the copy, also minimizing of highlights and elimination of fluorescence of certain colors when illuminated with large amounts of ultraviolet light, which would expose the negative to a degree not warranted by the visual appearance.

Professor Reed of the Lithographic Technical Foundation attributed the improvement of copy quality when illuminated by

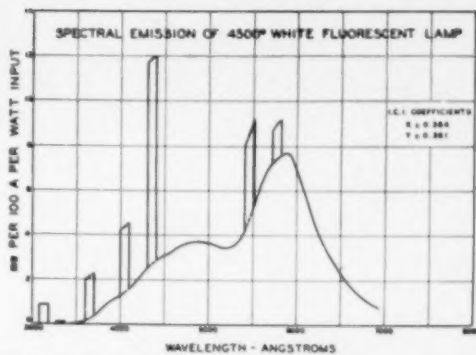


Figure 4. Spectral emission of 4500° white fluorescent lamps. General Electric Company, Nela Park.

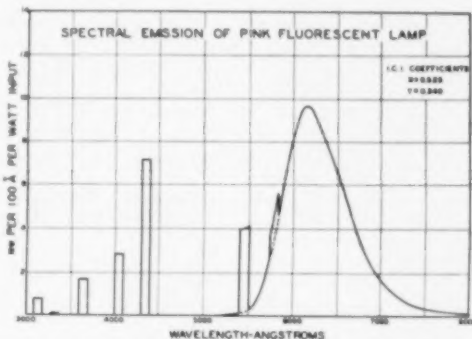


Figure 5. Spectral emission of pink fluorescent lamp. General Electric Company, Nela Park.

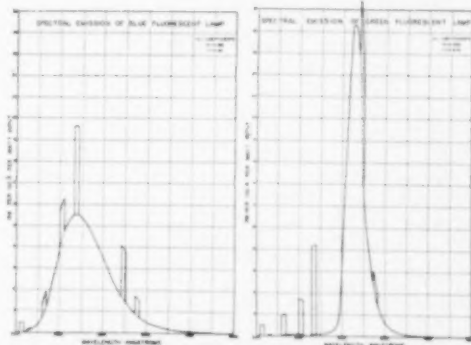


Figure 6. (Left) Spectral emission of blue fluorescent lamp. Figure 7. (Right) Spectral emission of green fluorescent lamp. General Electric Company, Nela Park.

colored lights to the absence of fluorescence of certain colors when illuminated with monochromatic light sources which emit a minimum of ultraviolet energy.

5—Separations are better balanced due to the absolute steadiness and constant color temperature of the light source used and the uniform illumination of the copyboard during the exposure.

6—More comfortable and cleaner operating conditions are self-evident, since 800 watts of fluorescent light enclosed in 8 air-

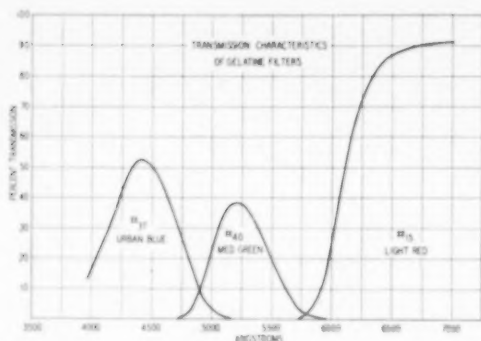


Figure 8. Transmission characteristics of theatrical gelatin filters used over fluorescent lamps. General Electric Company, Nela Park.

tight bulbs, without fumes, smoke or appreciable heat certainly create better working conditions than 25 to 50 times that wattage released in the same space.

7.—Considerable savings in the initial installation are due to the fact that the lights can be plugged into any existing 115 volt 60 cycle line. Heavy power lines are unnecessary. Savings in operating costs arise from the low power consumption of the lamps and their relatively long life and low replacement cost.

The net result of the advantages heretofore enumerated is apparent in the greatly improved quality of the negatives. That quality in turn is transferred to the printing plates and finally to a much truer full color reproduction on the printing press.

Most of the advantages listed above for color separation negatives from opaque copy apply as well for black-and-white printing plate making. They also apply in the case of color transparencies which are illuminated from the rear and photographed by transmitted light to produce tricolor separation negatives.

In addition to the advantages over arc lights provided by the soft, evenly distributed illumination of the fluorescent lamps, the following additional benefits are found when color transparencies are photographed:

1. Highlights emanating from lighter tone color areas in the transparency are minimized.
2. The transparency film can be held in perfect register with a mask during the exposure.

The explanation for elimination of glare arises from the fact that the transparencies are illuminated by only one color and this color is diffused, since it emanates from a large surface. The glare, that occurs when color transparencies are illuminated by white light, is attributed to the large amounts of foreign color including ultraviolet radiation emitted by such sources. Even though the light is filtered at the lens, in such cases, comparatively large amounts of foreign light reach the film or plate due to the overlap of all filters into adjacent areas of the spectrum.

Register is improved by the fact that fluorescent light is for all practical purposes cold light. The transparency films are not subjected to excessive heat and therefore do not shrink, stretch, or buckle during exposure. This permits perfect register from separation plate to successive separation plate. It also insures perfect register with any masks that may be used to cut down the intensity of the lighter colors in the transparencies.

All of the advantages of filtered fluorescent light sources have been proved in practical commercial use by leading

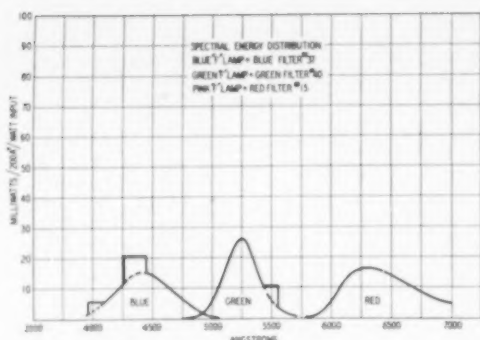


Figure 9. Filtered light for tricolor separation photography provided by colored fluorescent lamps screened by theatrical gelatin filters. General Electric Company, Nela Park.

photolithographers, resulting in the elimination of previously used light sources for all copy illuminating applications.

References

- ¹British Patent 166 028, July 14, 1921, Adrian Bernard Klein.
- ²U. S. Patent 1 945 768, February 6, 1934, Herbert Bertling.
- ³U. S. Patent 2 011 544, August 13, 1935, Isaac Rodman.



How Many Volts?

House lighting circuits are properly referred to as having a current rating of 110 volts, 60 cycles. Actually very few people in the United States have access to 110-volt power supplies either in their homes or in offices, schools, factories, public buildings or other places where the photographer may wish to plug in his equipment.

Less than one percent of the population is supplied today with 110 volt current. Information on this subject compiled by the General Electric Company during April 1950 is as follows:

110 volts	Less than 1%
115 volts	About 32%
120 volts	About 67%
125 volts	Less than 1/10%
130 volts	Approx. 1/100%

Technical writers generally refer to domestic power supplies as 115 volt, 60 cycle circuits. This is believed to be a good average of the conditions under which photographers operate. Most photographic lighting set-ups have lamps of 250 watts or more on the end of extension cords. Even though 120 volts may be available at the meter, the lamps probably aren't receiving more than 115 volts. Photographic lamps are generally designed for 115 volts as that is likely to be the voltage they will actually receive.

The Photomicrography of Nuclear Tracks*

MRS. IDA TSCHIDERER

THE USE of special photographic emulsions to record nuclear events in modern physics has become a well-established procedure. In unusual or novel cases, it is desirable to prepare magnified photographic records of these events, either for study or for publication. Many such photographs have been reproduced, but, in general, very little information has been given concerning the photomicrographic techniques involved.

Because of work carried on in this Laboratory to develop improved sensitive materials for recording nuclear events, we have had occasion to examine a great many nuclear-track records and to prepare photographic prints of selected examples. These examples have included tracks recorded in emulsions by electrons, mesons, protons, deuterons, alpha-particles, and fission fragments. The details of the method employed in making such photographs are here described.

For single, short tracks, such as are produced by low-energy alpha-particles (see Fig. 1), the photomicrography is relatively simple since usually a number of such tracks can be found which lie close to a single focal plane of the microscope. As a result, one negative exposure is sufficient to register the entire track on the photographic plate. In general, however, with longer tracks and infrequent nuclear events, the particle trajectories are not found in a single plane perpendicular to the optic axis of the observing microscope. It is true that microscopes with tilting stages are made, but these are costly and are rarely available in the average laboratory. Therefore, it is necessary to resort to other expedients to prepare pictures of such events. The aim in making records of tracks passing at angles through the nuclear emulsion layers is to produce a careful

projection of a three-dimensional original in the single plane of a photographic print. This is best accomplished by preparing negatives of the various planes of the subject and composing prints from these into a mosaic. This mosaic can then be re-photographed to form the basis of multiple copies.

Figure 2 is a picture of the equipment used by us for making photomicrographs of nuclear tracks. A Bausch and Lomb microscope, Model GGDET, is used, rigidly mounted on a sturdy bench; a Bausch and Lomb research microscope lamp, Model 31-33-85-11, with a 6-volt, 18-ampere, 108-watt tungsten ribbon-filament bulb is also mounted on the same bench in alignment with the microscope and arranged for Köhler-type illumination. A General Radio Variac, Type V5-M-T, is inserted in the input circuit of the lamp transformer and a heat-absorbing 30-mm absorption cell filled with a 1 per cent solution of copper sulfate is used in the path of illumination.

The microscope is equipped with an inclined binocular body tube for visual use and a monocular tube for photomicrography. It is also equipped with a rotating, graduated, mechanical stage. For scanning the plates, a Bausch and Lomb 8-mm apochromat, N.A. 0.65, 20X is used, although a 4-mm objective affords the convenience of greater magnification without undue loss of field and depth of focus. For the best resolution of track details and maximum magnification, a Bausch and Lomb 2-mm 90X oil-immersion apochromat, N.A. 1.30, is employed, with a 1.4 N.A. achromatic condenser with built-in iris diaphragm. With all these objectives, paired compensating eyepieces, 12.5X, are used for visual observation.

The vertical stand of a Kodak Precision Enlarger provides the camera support (Fig. 2), bolted to the microscope bench. A Kodak Precision Enlarger Bellows Assembly A and Camera Back Adapter to take 2¼- by 3¼-in. plate-



Figure 1. Tracks of alpha-particles from polonium. Kodak Nuclear Track Plate, Type NTA.

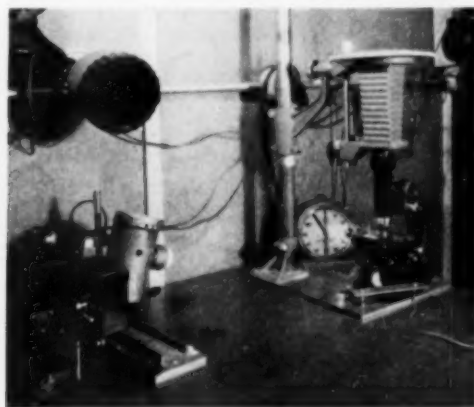


Figure 2. Photomicrographic equipment.

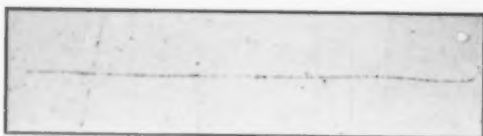


Figure 3. A 7-Mev. proton track. Kodak Nuclear Track Plate, Type NTB.

holders in place of the enlarger condenser head and lamp-housing are used as a photomicrographic plate camera. The bellows are always used at full extension to give maximum magnification. The camera is so arranged that it can be swung to one side when not in use.

The track to be photographed is first examined visually. When photographing, the 12.5X eyepiece is replaced by a Bausch and Lomb high-power Ampliplan which gives a slightly flatter field in the projected image. The bellows are swung into position over the microscope. Connection of the camera bellows with the microscope is accomplished by a loose, light-trapped joint consisting of a cup on the large-diameter microscope tube and a dovetailed collar mounted in place of an enlarger lens on the lens board. If desired, a camera shutter, without a lens, mounted on this board can be used to time exposures.

The projected image is focused on a ground glass, part of which is provided with a small, square, clear section prepared by cementing a micro cover slip to the glass with Canada balsam. The sharpness of the image is best checked critically on this clear section with a small hand magnifier, such as a Bausch and Lomb focusing magnifier, Model 81-34-97. With the equipment set up in this manner, magnification on the negative is approximately 625X.

The track is photographed in sections, as many negatives being made as are necessary to record the desired sections in good focus. It is sometimes necessary to move the slide for each negative, if the track length is such that it cannot be covered with one field (see Figs. 3 and 4). We have found that the following procedure works very satisfactorily for preparing the mosaic negative components: An initial negative is exposed, starting at some point on the subject. Then the ground glass is replaced in the camera, and another section of the track is brought into position and focus by means of the mechanical stage and fine adjustment. This procedure is repeated as often as is necessary to photograph sharply the entire subject. In most cases, it is desirable, while making the exposures, to prepare a rough pencil sketch of the entire subject with numbers indicating the negatives of the appropriate portions. In lieu

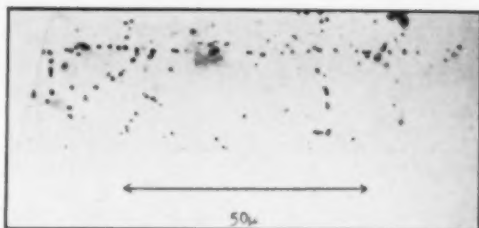


Figure 4. Section of a high-energy electron track. Kodak Nuclear Track Plate, Type NTB.

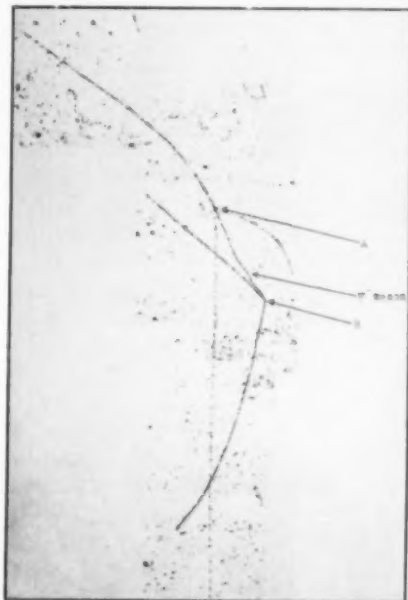


Figure 5. A high-energy cosmic-ray particle whose track is not visible on the print collided with an atom of the emulsion at the point A, producing a five-pronged star. One of the particles, a π^- meson, came to rest at the point B and was captured by a nucleus of the emulsion. Two of the resulting particles were protons. The event was obtained in a plate exposed at 100,000 feet in a free balloon. Kodak Nuclear Track Plate, Type NTB2. Courtesy of Dr. Bernard Peters and Dr. Helmut Bradt, University of Rochester.

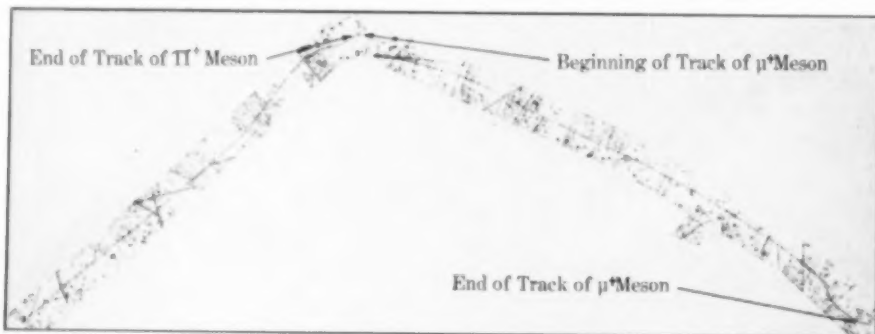


Figure 6. Tracks of π^+ and μ^+ meson— π^+ - μ^+ decay. Kodak Nuclear Track Plate, Type NTB. Courtesy of Dr. Sidney Barnes, University of Rochester.

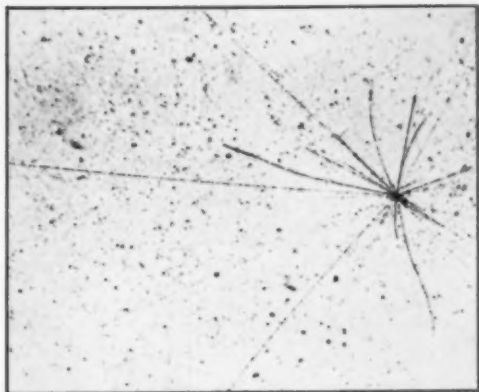


Figure 7A. Cosmic-ray star—42 fragments. Photographed with 8-mm objective and low-power Ampliplan. Kodak Nuclear Track Plate, Type NTB3. Courtesy of Dr. Bernard Peters and Dr. Helmut Bradt, University of Rochester.

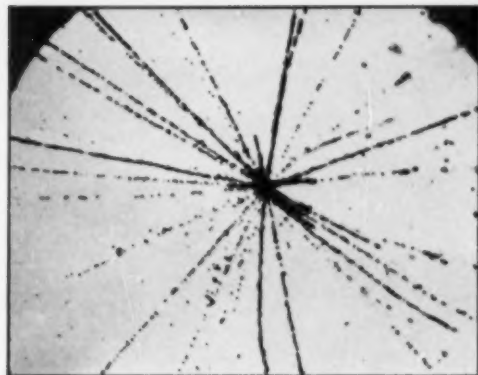


Figure 7B. Cosmic-ray star—42 fragments, same as Figure 7A. Photographed with 2-mm objective and high-power Ampliplan.

of this sketch, a lower-magnification photomicrograph of the subject could be used as a guide for the mosaic construction, but it requires more time.

For photomicrography, $2\frac{1}{4}$ - by $3\frac{1}{4}$ -in. Kodak Spectroscopic Plates, Type III-O, are used. Exposure times vary from 5 to 15 seconds, depending upon the contrast and background density in the nuclear-track plates. An automatic timer is used in the lamp circuit to give accurate and repeatable exposures. The lamp intensity can also be increased or decreased with the Variac as a further control. Development of the plates is three minutes in Kodak D-19 Developer at 68°F. , followed by a 20-sec. rinse in Kodak SB-1 Stop Bath and fixation in Kodak F-5 Fixer.

Prints are made of each negative at two times enlargement, giving a final magnification of 1250X on the finished picture. Best results are obtained with a high-contrast paper, such as Kodabromide F-5. Processing of these prints is 90 seconds in Dektol (1:2), followed by a 20-sec. rinse in the stop bath and fixation in F-5. The prints are ferrotyped and run through a print-straightener for ease in assembling.

Using the numbered sketch, previously mentioned, as a guide, sections are cut from each print. The sections are joined, edge to edge, with Scotch tape applied to the back of the prints. A print with the center section in good

focus serves well as a base on which to assemble the mosaic. Figure 5 shows a double-star nuclear disintegration found in a plate exposed at 90,000 feet elevation. One long track was not photographed in its entirety, as nothing important would have been shown by making the additional twenty or more exposures necessary to photograph it completely.

Figure 6 shows two long tracks, both of which are complete. This picture was made by taking the first exposure at the section where the two tracks seem to meet, then following each track to the end.

Figures 7A and 7B illustrate a slightly different technique. Figure 7A shows a cosmic-ray star found in a nuclear-track plate exposed at 90,000 feet elevation. This photograph was made in a single exposure using the 8-mm objective and a low-power Ampliplan. Then, to record the detail in grain size and spacing of the various tracks, Figure 7B was made, using the 2-mm objective and the high-power Ampliplan. Here, twenty-five exposures were made of the same field. To change the focus, the graduated collar on the fine adjustment of the microscope was used. Since the tracks sprayed in all directions and throughout the thickness of the 50-micron-thick Kodak NTB3 emulsion, the exposures were made from the top to the bottom plane of the emulsion, varying the plane of exposure each time by 2 microns. The negatives were numbered in order,

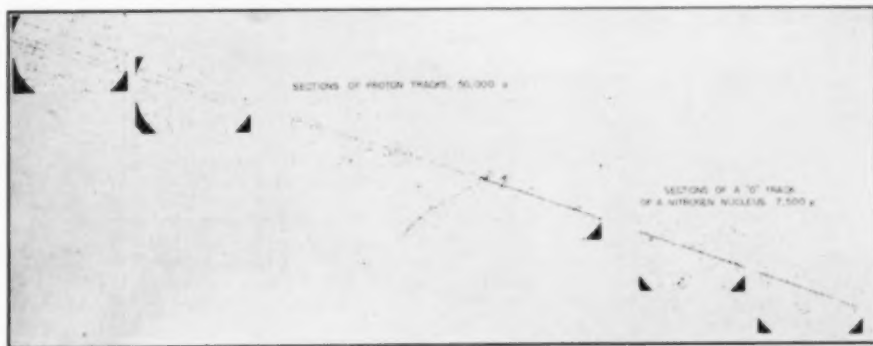


Figure 8. Section of proton tracks. Kodak Nuclear Track Plate, Type NTB3. Courtesy of Dr. Bernard Peters and Dr. Helmut Bradt, University of Rochester.

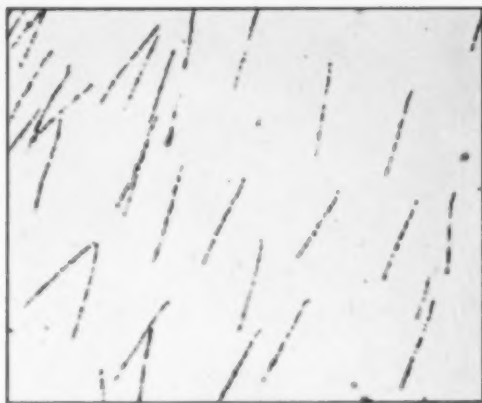


Figure 9. Tracks of alpha-particles from polonium. Photographed with dark-field illumination. Kodak Nuclear-Track Plate, Type NTA.

and the mosaic photograph was made in the same manner as previously described.

Sometimes it is sufficient with very long tracks to make just a few negatives, in order to record detail at the be-

ginning, middle, and final portions of the track (see Fig. 8).

In some instances, the nuclear-track particles are quite small, almost below that of ordinary microscopic resolution, as, for example, Kodak Spectroscopic Plates, Type 548-GH. If such particles are to be counted, dark-field illumination is most satisfactory to prevent eye fatigue. Photographs made with this illumination show more detail in grain spacing. The bright-field condenser is replaced by a Bausch and Lomb paraboloid condenser (Catalogue No. 31-58-50-21), and the 2-mm objective is used. The built-in iris diaphragm in this objective is especially helpful for this work. The exposures are made in the same manner as with bright-field illumination, except that Kodak Spectroscopic Plates, Type 103a-O, are used because of their response to weak illumination. With these plates, exposures varying from one to three minutes are used. Figure 9 shows a few tracks of alpha-particles photographed in dark-field illumination.

Acknowledgment

The author gratefully acknowledges her indebtedness to Dr. Bernard Peters, Dr. Helmut Bradt, and Dr. Sidney Barnes, of the University of Rochester, for supplying exposed and developed nuclear-track plates from which some of the photomicrographs were made, and to Dr. John Spence, of the Kodak Research Laboratories, for his valuable assistance and advice.

Gold Sensitized Emulsions and the American Photographer

F. W. H. MUELLER, APSA

REPORTS, which have been made public only recently, make it evident that a new era in photographic emulsion making began in 1937. Koslowsky's introduction into silver halide emulsions of gold complex salts produced astonishing increases in speed. The practical significance of the reaction was realized at once. Ultra fine grain emulsions of Agfa in Europe and the high speed Ansco films in this country were some of the immediate results based on gold sensitization.

The writer has no doubt that other manufacturers in this country successfully employed gold sensitization procedures long before 1943, when a United States patent was issued to Waller, Collins, and Dodd and assigned to Ilford. Gold sensitization permits increases in photographic sensitivity of emulsions by a factor of 4 with practically no increase in graininess. Also, extremely fine-grain emulsions of normal speed are made possible. Both kinds of film are now commonplace in America, particularly in the motion picture industry.

Special emulsions with a particular response to high voltage radiation required for industrial radiography have been made possible by the new emulsion making technique. Modern color film emulsions may likewise be advantageously sensitized with gold salts. Since the quantities of aurous compounds required to produce the effect are rather small, the effect on production costs is relatively insignificant, and the new emulsions were made available to photographers at the same price as the older ones.

Experiments with gold salts in photography have been

going on since the early days. Homolka produced a physical development in 1907 by bathing an exposed silver halide plate in a gold chloride solution for several hours. Gold toning-fixing solutions were popular in the past for making permanent the images on printing-out papers and enhancing their appearance. W. Jenisch in 1926, B. H. Carrol and D. Hubbard in 1928, and others experimented with gold salts or colloidal gold with the definite objective to increase the sensitivity of photographic emulsions. Apparently, no practical success came to these investigators. Replacement of silver specks, or of photolytic silver, with gold as first described by Koslowsky in 1936 has led to numerous practical applications of immeasurable benefit to photographers everywhere.

For various reasons nothing was published about gold sensitization effects during the first few years after Koslowsky's discovery. Now that the veil has been lifted, the writer hopes that further discussions of the mechanism will be stimulated. Further clarification of the gold effect on the photographic process is needed. This should provide a challenge to the American emulsion technicians who may be in a position to make contributions on the subject.

It was the writer's pleasure to work with Dr. Koslowsky at the Agfa Research Laboratories in Wolfen, Germany from 1935 to 1936. He was highly regarded as a most able photographic research chemist at the time and was well known in Europe for his work on optical sensitizers. Practically nothing has been learned about his fate since the war ended.

PHOTOGRAPHIC SCIENCE AND TECHNIQUE

Some Remarks on Gold Treatment of Photographic Silver Halide Emulsions†

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(Received March 25, 1949)

Earlier attempts of various investigators to increase the sensitivity of photographic emulsions by addition of colloidal silver, silver sulfide, or gold are reviewed. Koslowsky's discovery of the effect of certain gold complex salts as powerful sensitizers is described and a possible mechanism of the effect discussed. The importance of this effect for the manufacture of modern high speed and fine grain film as well as special x-ray emulsions is indicated.

DEMANDS for higher sensitivity of photographic emulsions and films preferably with finer grain to suit the various applications have continuously stimulated efforts of academic and industrial research laboratories to study the mechanism of silver halide activation and latent image formation.

Rather early evidence was obtained that photographic sensitivity is increased by the presence of ultra-microscopic particles on the silver halide grain. The question as to the exact chemical and physical nature of such sensitivity specks or centers remained in the realm of speculation, until Sheppard's¹ work established that sulfur compounds in gelatin produce silver sulfide on the silver halide grains.

Various investigators²⁻⁴ introduced colloidal particles of silver, silver sulfide, gold, and platinum into photographic emulsions in the hope that such nuclei would act as additional sensitivity specks or enlarge ripening specks produced by the interaction with gelatin. The results, while positive in some cases, remained erratic, possibly due to the irreproducible properties of gelatin itself. For this reason, no commercial value could be attached to these otherwise interesting experiments.

Evidence, however, is accumulating that gold salts (not colloidal dispersions of the element) are being used in modern emulsion manufacture.⁵⁻⁷ Yet it may not have been generally realized from some of these disclosures that it was the use of certain complex gold salts as "sensitizers" which led to one of the greatest advances in the manufacture of photographic emulsions in this country about a decade ago. At this time the use of this technique made it possible to raise film speeds by a factor of 4 or to produce fine grain emulsions with a sensitivity which seemed previously incompatible with this speed.⁸ Therefore, a discussion of the earlier work in the Anso Research Laboratories might be in order. Furthermore, an elucidation of the mechanism of the gold salt treatment may lead to a better understanding of the nature of sensitivity specks.

In 1936 Koslowsky⁹ of the Agfa Laboratories first demonstrated that a permanent two- to three-fold increase of sensitivity in gelatin silver halide emulsions could be achieved by incorporation of gold complex salts in the form of aqueous solutions of ammonium or alkali aurous thiocyanates during the second digestion or after ripening, or by adding such solutions to the melted emulsion before coating on a support (Fig. 1). Soon thereafter the writer found that a bathing treatment was similarly effective for both unexposed and exposed films (not published) (Fig. 2). Koslowsky assumed that the silver halide dissolving action of excess alkali thiocyanate and thiosulfate made available silver nuclei (sub-surface?) which were formed during the ripening process and which were then partially replaced by gold. This seemed to be

in line with the observation that strong latensification by post-fixation gold treatment and physical development was obtained, a fact which was more recently confirmed by James.⁵

It is still believed that the sensitizing effect of gold salts upon silver halide emulsions—similar to that of mercury¹⁰—is more closely related to the presence of metallic silver nuclei or photo silver on the ripened emulsion grain rather than to the presence of silver sulfide. When gold salt sensitizers are added to an emulsion before digestion, only a negligible increase in speed is obtained presumably because of the absence of ripening silver.

Koslowsky noted that gold complex salts of very similar chemical structure, for instance, potassium aurous thiocyanate and potassium aurous cyanate behave photographically entirely differently, the latter producing no sensitizing effect at all. During further investigation at the Anso Laboratories, it became evident that complex salts, the complex ion of which has a dissolving action on silver as well as on silver halide and silver sulfide, are unsuitable for producing speed increases of practical significance. It is believed that in this case the silver of the ripening speck is dissolved either partially or completely before the "plating" reaction (replacement of silver with gold) can occur or that the gold specks are dissolved in the excess of potassium cyanide, used to stabilize the complex salt. On the other hand, gold complex salt solutions which will not dissolve silver, such as aurous thiocyanate or aurous thiosulfate, produce the desired increase in the sensitivity of the emulsion when

⁵ T. H. James, *et al.*, P.S.A. J. 14, 349-53 (1948).

⁶ F. Dersch and H. Durr, S.M.P.E. XXVIII, 178-86 (1957).

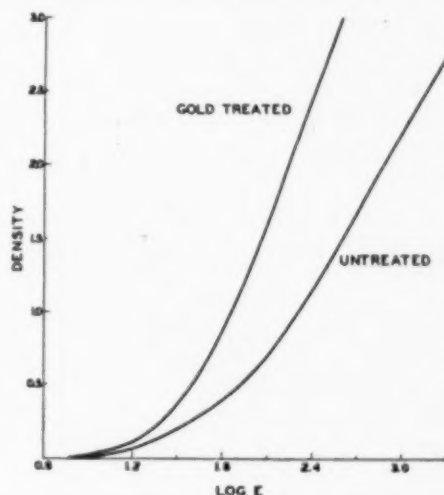


Figure 1. Low-speed, fine-grain emulsion (Anso)

¹ S. E. Sheppard, *Phot. J.* 65, 380 (1925).

² W. Jenisch, *Zeits. f. Wiss. Phot.* 24, 248 (1926).

³ B. H. Carroll and D. Hubbard, *J. Research Nat. Bur. of Stand.* 1, 565-88 (1928).

⁴ H. Weiss, *Zeits. f. Physik. Chemie* 94, 3051 (1906).

⁵ R. Koslowsky and H. Mueller, *Agfa Film Plant, Wolfen, Germany, Reports September-October 1936. "Bibliography of Scientific and Industrial Reports"* (U. S. Department of Commerce, Washington), Vol. 8, p. 875. PB 70053, 11, 851-50.

⁶ H. Keller, *Gen. P. Appl.* 114,185 (2/17/43). *Bibliography of Scientific and Industrial Reports* (U. S. Department of Commerce, Washington), Vol. 10, p. 158. PB 84,987 11, 8366-7.

⁷ Waller, Collins, and Dodd, United States Patent 2,399,083 (4/25/46).

⁸ Anso Superpan Supreme and Anso Ultraspand Pan Class 1-A Award of the Academy of Motion Picture Arts and Sciences in 1937.

⁹ Reprinted from *JOURNAL OF THE OPTICAL SOCIETY OF AMERICA*, Vol. 39, No. 6, 494-496, June, 1949.

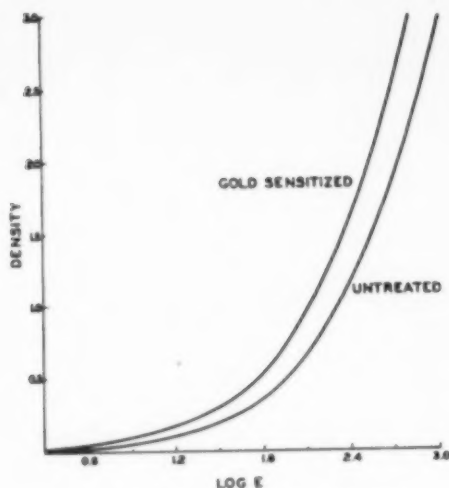


Figure 2. Non-screen emulsion (65 kv.) (Ansco)

added during the second digestion or when applied by bathing the finished film. This may serve as experimental evidence that silver must be present in sensitivity specks. The case of hypersensitization of unexposed film with gold salts lends further support to this conclusion.

The nature of the chemical reaction by which the gold plating occurs, is thought by the writer to be similar if not identical with that occurring in the old gold toning and fixing solutions^{10, 11} (which were used in connection with printing-out paper) expressed by the simple equation



The physical and chemical mechanism occurring on the grain can be thought to consist of a formation of a localized electrolytic cell. Erbacher¹² has shown that conditions for deposition of a noble salt on a less noble metal are particularly favorable for gold on silver and result in a multilayer plating. This is in good agreement with our photographic experience with other noble metal salt solutions of the platinum class which produced distinctly smaller sensitivity increases than those obtained with gold.

¹⁰ F. Fomstcher, *Phot. Ind.* 874-5 (1921).

¹¹ J. M. Eder, *Handbuch d. Photographie* (1928), Vol. IV, I, pp. 42-63.

¹² C. Erbacher, *Zeits. f. Electrochemie* 58, 554 (1952).

Principles of Color Sensitometry

Color sensitometry compares to regular black-and-white photographic sensitometry about the same way television compares to radio. It introduces new dimensions into an art that had become conventional. It adds a new vocabulary to a field where many had learned to work "gamma" into the conversation but relatively few knew what the term signified.

The people who know most about natural color photography and color sensitometry consider this field too new and too susceptible to growth and change to be ready for standardization. The very newness and the burgeoning development of color sensitometry, however, have impressed orderly minds with the need for an early statement of general principles to guide but not to confine future growth.

The Society of Motion Picture and Television Engineers has taken the first step on a national scale to rationalize the new science of color sensitometry. In the June issue of

A number of experiments recently described by James⁹ refer to latensification with gold salts and to the stability of gold-treated films towards certain bleaching agents, such as acid potassium dichromate; they are in excellent agreement with earlier work by the writer and, therefore, need not be described here again in detail. In other experiments at the Ansco Laboratories, it was possible to combine gold and mercury latensification or hypersensitization with an additive effect in certain emulsions without increasing the fog unduly. If amalgamation of silver specks enhances the electron-attracting properties of the sensitivity specks, a "gold-plated" speck may undergo similar amalgamation on subsequent mercury vapor treatment and may further increase the speck size or increase the electron-attracting properties of the speck. It is an interesting fact that the final result on such combined treatments was practically the same regardless of the order of the gold or mercury treatment.

In the course of some hypersensitizing experiments carried out in joint work with H. Huerlin (to be published), it was discovered that gold sensitized emulsions designed for industrial radiography show a specifically increased sensitivity to high voltage radiation and thus record the impact of electrons in a manner superior to non-gold sensitized emulsions. It must be assumed that in this case too, the gold nuclei act as superior electron traps in the case of hypersensitization, or catalyze development in a more efficient manner in the case of latensification.

Conclusions

The existence of an electric potential in a complex gold salt solution in contact with metallic silver nuclei either in the form of ripening silver or photo silver is assumed to lead to a deposition of metallic gold *in situ*. Since this localized deposition of gold on the silver halide grain increases the emulsion speed substantially, gold nuclei must act as more efficient electron traps in terms of modern theories for the formation of sensitivity specks. That gold also serves as a more efficient catalyst in the development of exposed silver halide has been shown in the meantime by James.¹³

The relative ineffectiveness of colloidal gold dispersions as sensitizers may be explained by the lack of a potential. It seems possible that adsorption forces binding colloidal gold particles to the silver halide produce similar effects as the gold "plating" obtainable with ionic gold salts. There is no indication that colloidal gold has led to controllable speed increases of practical value. The formation of sensitivity specks, however, produced by deposition of gold from monovalent complex salts either during the ripening stage or when added as a coating final is a technique which has been utilized by manufacturers of photographic emulsions on a commercial scale to develop products of greatly improved sensitivity and finer grain.

Acknowledgment

As stated in the introduction, the author was but one of a number of contributors to the development of Koslowsky's discovery. The stimulating discussions and contributions of other members of the Ansco Laboratories, particularly Dr. H. H. Duerr and Dr. F. H. Dersch, are gratefully acknowledged.

¹³ T. H. James, *J. Coll. Science* 3, 447 (1948).

the SMPTE *Journal* appears the first comprehensive treatment of the subject to appear in print. Titled *Principles of Color Sensitometry*, the work is published for the assistance and guidance of the motion picture industry but is so fundamental in nature and so comprehensive in scope that it will be of benefit to all technical workers who are concerned with the control of color photographic processes or the analysis of color pictures, including the graphic arts.

The report is a joint effort of six of the foremost American color control experts representing film manufacturers and color film processing laboratories from coast to coast. The eight chapters, written by individual contributors, have been edited by C. F. J. Overhage of the Kodak Color Control Department into a homogeneous, highly readable, and technically lucid treatise. The document is issued as a report of the SMPTE Color Committee by Chairman H. H. Duerr of the Ansco Division. A supply of reprints has been made available at SMPTE Headquarters in anticipation of the demand that doubtless exists for an authoritative and comprehensive treatment of the lusty new science of color sensitometry.

Some Meanings of the Absolute Opening[†]

DIPL. ING. ALFRED SEEMAN*

ON SOME continental lenses, the actual diameter of the diaphragm aperture in millimeters is marked. The former "New Zeiss-Series" or "Absolute Opening System" is an example and has its advantages, especially for convertible lenses.

Stating the admissible unsharpness, c , to be proportional to the focal length, as usual, $c = f/1000$, the hyperfocal distance will be $H' = f^2/c \cdot s = 1000 \cdot o$, where o is the diameter of the lens opening, hereinafter called the absolute opening. The depth of field, $D_1-D_2 = \frac{csD(D-f)}{f^2} =$

$\frac{D^2}{1000 \cdot o}$ (**). The depth of field thus is in inverse ratio

to the absolute opening of the lens. The diaphragm scale on the shutter can be marked with figures independent of the lens screwed in. Moreover, these absolute diaphragm openings determine the depth of field independently of the focal length.

Some Drawbacks of the f /Number System

The "Natural Series" or "Relative Opening System" is said to bring the brightness of the image and hence the time of exposure required for lenses of any design and focal length to a common foundation. It is known that this system does not take the following facts into account:

- (a) The losses by reflection on the glass-air surfaces[‡] and absorption[§] within the component lenses of the objective;
- (b) The marginal loss in brightness in case of great angles of incidence;
- (c) The prolongation of exposure-time for close-ups.

[†] Author's translation edited by P. F. Warfield and V. H. Reckmeyer.

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^{**} This is an approximation, because for nearby objects the magnification must be taken into account and s must be replaced by the effective aperture. (Ed.)

[‡] Modern lens-coatings obviate this for most practical purposes. (Ed.)

[§] Losses by absorption are almost negligible. (Ed.)

Absolute Opening and Time of Exposure

Films or plates of a high speed (A.S.A. Index 100) can be utilized in larger sizes without difficulty. But in miniature photography care must be taken that the small $1 \times 1\frac{1}{2}$ " negatives turn out suitable for enlargement, i.e. fine grained. On this account, a medium speed film must be employed, amply exposed and shortly developed, if one does not prefer to use a real fine grain film of a low speed (A.S.A. Index 25). The square size, $2\frac{1}{4} \times 2\frac{1}{4}$ ", takes in a sound average. Both relative opening and film speed influence the required time of exposure simultaneously and therefore can be joined together to a single factor.

We can make an allowance for the loss of speed in miniature photography in a first approximation by stating the stop number s in ratio to the admissible unsharpness c for two different cameras: $s' = c'/c$, or to the normal focal length for the size used: $s' = s f'/f$, which amounts to the same thing. Hence follows, $f'/s' = f/s$ or $o' = o$. Considering the loss of film speed in miniature photography, the practical time of exposure will be the same for the miniature camera as for the larger camera when each is at the same absolute opening. This is valid for lenses of focal length from 2 to 4 inches.

The time of exposure is not exactly determined by the relative stop number $s = f/o$ but rather by the absolute diameter o . The notorious profit on depth of field in miniature photography is only delusive and cannot fully be made use of because of the loss in film speed to obtain the necessary fine grain. Practically, then, we must work in miniature photography with the same absolute opening as in larger sizes and therefore attain no more depth of field. The absolute diaphragm opening, therefore, can be used as a measure for the speed or time of exposure for comparisons between miniature cameras and the smaller amateur-type cameras.

References

- (1) Kingslake, The Effective Aperture of a Photographic Objective. J. Opt. Soc. Amer., 35, 518-520 (1945).
- (2) Seemann, Die Blende. Fotogr. Rundschau, 74, 23 (1937).

American Standards for Photography

PAUL ARNOLD, APSA

THE CATALOG of the American Standards Association, Inc. lists about 130 photographic standards and an additional 65 for motion pictures. None of these standards was formulated by the Association. In fact the ASA Constitution expressly forbids formulation of standards.

The designation *American Standard* is jealously guarded

by the American Standards Association. They permit use of the designation along with the ASA initials only on documents that have been studied and approved on a national basis. Approval must be affirmatively expressed by all the groups (producers, consumers, distributors, etc.) known to have a substantial interest in the scope and pro-

visions of the standard. All who have an interest have a chance to be heard. "Silence" does not "give assent" in the case of American Standards. Those who participate must speak up and their approval becomes a matter of record.

The ASA operates by stimulating the work of existing committees and other organizations competent to formulate standards suitable for recognition as American Standards. If and when the PSA adopts standards, the PSA standards will be eligible for recognition as American Standards under ASA rules. When the need for standardization in a particular field becomes apparent and no committee or group is found who could develop the needed standards, the ASA assists in the organization of a competent committee. Such committees usually are called *Sectional Committees*.

ASA Photographic Standards Committees

The Sectional Committee on *Standardization in the Field of Photography* was organized in September 1938 with Dr. Loyd A. Jones, Hon. FPSA, of the Kodak Research Laboratories, as Chairman and the Optical Society of America as *Sponsor*. The activities of the Chairman of a Sectional Committee are conventional ones but the accomplishments of this one are most unusual. The Sectional Committee on Photography Z38, under the leadership of Dr. Jones, not only grew into the largest Sectional Committee in ASA history (about 60 members) but also developed more standards by far than any other Sectional Committee. This record seems all the more remarkable when it is realized that a great many ASA Sectional Committees are organized for the purpose of developing a single American Standard, and one standard is all they ever produce.

One of the standards developed by the photographic Sectional Committee Z38 was the most popular American Standard ever published. This was the *American Standard Photographic Exposure Computer Z38.2.2* issued in 1942 as a war-time project at the request of the U. S. Navy and other branches of the armed forces. Many thousands of copies were printed for photographers in uniform to guide their picture taking efforts in unfamiliar latitudes around the world. Thousands more were purchased by civilian photographers. A new edition has been needed and an up-to-date revision of the ASA Photographic Exposure Computer is being issued this month to meet the continuing demand.

The activities of the *Sponsor* for an ASA Sectional Committee are not so conspicuous. The two main functions of a *Sponsor* are to keep the work moving and to vouch for the technical qualifications of a proposed standard.

In the case of photographic standards Sectional Committee Z38, the work has not lagged, as the list of approved standards will attest. The leadership of the Sectional Committee Chairman and the enthusiasm of the individual members who make up the Sectional Committee and its Subcommittees have made prodding by the *Sponsor* unnecessary. The participation in Z38 activities of a great number of the outstanding technical experts from the photographic industry, from Government Departments, and from the laboratories of both private and educational organizations has also made the Optical Society's responsibility to vouch for the technical qualifications of photographic standards unnecessary.

Motion Picture Standards Activities

American Standards for Motion Pictures are the responsibility

of ASA Sectional Committee Z22 which has for *Sponsor* the Society of Motion Picture and Television Engineers. This standardizing body deals with aspects of photography that are uniquely concerned with the production and exhibition of motion pictures. In addition it encompasses standards activities in the electrical and acoustical fields having to do with sound recording and reproduction and, more recently, with the pictorial aspects of television. The SMPTE provides the necessary secretarial services for Z22 in line with the usual responsibilities of *Sponsors* for standards projects. The Journal of the Society publishes proposed American Standards for comment and criticism when the need arises. The Society of Motion Picture and Television Engineers, through its engineering committees and its Committee on Standards, takes an active and interested part in the program of the motion picture standards Sectional Committee Z22.

Photographic Standards Committee

Reorganization

The Motion Picture Standards Committee cooperates with the Photographic Sectional Committee Z38 through a certain amount of interlocking membership. Even closer collaboration and correlation is provided for the future by the creation of a *Photographic Standards Correlation Committee* as one of the several general administrative committees in the ASA organization. This new Correlating Committee was organized March 31, 1950 to supervise the activities of both Z22 and Z38 and to organize any new Sectional Committees that may be required in the field they serve. Plans are now under way in the Correlating Committee to reorganize Sectional Committee Z38 into smaller, more homogeneous units that can function more efficiently than the present oversize committee.

Proposed Standards Published for Trial

It sometimes happens that the need for an American Standard develops faster than the ideas of the Standards Committee develop with respect to the final form the standard should take. In other instances a committee may find itself working on a subject of interest and concern to a number of organizations that do not participate in the standards committee activities for one reason or another. In either event it is customary and recommended procedure within the ASA to draft a proposal for an American Standard and publish it for trial and criticism. The period of trial may be specific (usually one year) or it may be indeterminate.

On the following pages is printed a Proposed American Standard that was developed by a Subcommittee of Photographic Sectional Committee Z38. It is published here because the PSA stands in the same position with respect to the field of photography that the SMPTE does to the motion picture field. Many members of the PSA Technical Division have a firm belief that the readers of *Photographic Science and Technique* are the one group in America most interested in matters of photographic standardization and most competent to advise the American Standards Association regarding the acceptability of such proposals. Comments, recommendations, and suggestions regarding the proposed Standard Practice for Lantern Slide and Slidefilm Projection are invited. They should be addressed to the American Standards Association, Inc.

PHOTOGRAPHIC SCIENCE AND TECHNIQUE

Proposed American Standard Practice for LANTERN SLIDE AND SLIDEFILM PROJECTION

ASA
Reg. U. S. Pat. Off.
*UDC 778.2
Z38.7.20
June 1, 1950
(First Draft)

Page 1 of 2 Pages

1. Screen Illumination

1.1 The illumination on the screen should be adequate to give at least 5 foot-lamberts.

1.2 The projector illumination should be maintained to give the illumination indicated in Fig. 1 for beaded or matte screens of the size required to meet the other items of this standard.

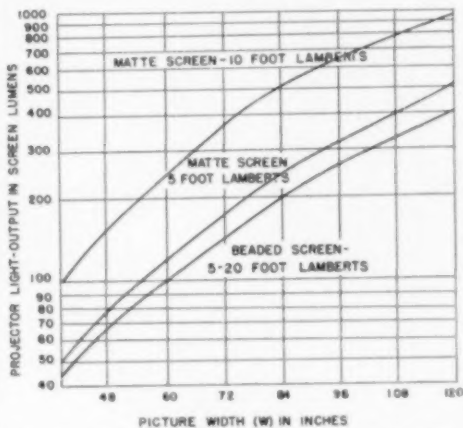


Figure 1. Maximum picture widths for projector light output.

1.3 Screen lumens shall be measured according to Section 3.4 of American Standard Methods of Testing Printing and Projection Equipment, Z38.7.5-1948.

2. Screen Maintenance

2.1 When the illuminated screen appears darker

than a clean piece of white typewriter paper held in contact with the screen, the screen should be cleaned, resurfaced, or replaced.

3. Use of Beaded-Type Screens

3.1 The front row of seats should be at least two and one-half times the width of the screen from the screen, Fig. 2.

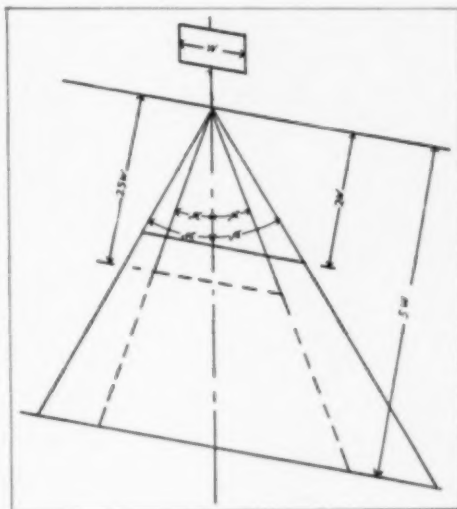


Figure 2. Proper distance and viewing angles for screens.

3.2 The back row of seats should be not more than five times the width of the screen away from the screen.

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Proposed American Standard Practice for
**LANTERN SLIDE AND SLIDEFILM
PROJECTION**

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3.3 The outer row of seats on each side should be not farther than 20 degrees from a line connecting the projector and the center of the screen, Fig. 2.

4. Use of Matte-Type Screens

4.1 The front row of seats should be at least two times the width of the screen from the screen, Fig. 2.

4.2 The back row of seats should be not more than five times the width of the screen away from the screen.

4.3 The outer row of seats on each side should be not farther than 30 degrees from a line connecting the projector with the center of the screen, Fig. 2.

5. Room Illumination

5.1 During the projection periods the illumination of the room should not exceed 0.1 foot-candle. The room lights should be arranged so that no direct light from them reaches the screen. Dimmer circuits for providing a graded transition of lighting are recommended for auditoriums and classrooms.

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